The Personalist

Volume XIII Number 4

OCTOBER, 1932

TOOLS AND CULTURE

BY CLARENCE MARSH CASE

If we approach the problem of civilization without the academic dread of offending Darwinian unilinear evolution, the unity of nature, or other vested interests of the academic world, our method will be more truly objective, and the task before us may find itself considerably simplified. Even at that, it must prove difficult enough, for the reason that culture, or civilization if preferred, is a highly complex thing even in its most primitive and simplest forms. Nevertheless, it is the datum with which all the social sciences and other humanistic disciplines have to begin. The fact that many writers in these fields have approached their own subjects through long and imposing corridors of biological and psychological reasoning, leading through the domain of purely animal behavior, does not change the location of the front doorsill, so far as the social sciences are concerned. History, political science, economics, anthropology, sociology, philosophy and all their company carry by assumption the word *human* before them, so unequivocally that it were superfluous to utter it. Very recently those interested in reducing all things to common categories have sought to extend the sociological interpretation and inquiry to the sub-human world. Already two significant results have appeared, one being the fact that a new term, "animal sociology," has been found necessary; the other that the two sociologies have little, if anything, in common. Thus, in a very recent chapter on "Mammalian Sociology," an eminent anatomist says, after extended first-hand observations of monkeys and apes:

> Culture . . . is an essentially human phenomenon. It is conceivable that a clearer biological understanding of the nature of speech and its derivatives will eventually bring the materials of sociology within the scope of physiological interpretation. Meanwhile, however, a significant and convenient line of demarcation can be drawn between the respective fields of human and animal sociology.[1]

While Dr. Zuckerman goes on to say that " it is conceivable that the day may come when it will be possible to discuss adequately all forms of overt behavior, human or animal, in the same terms," the passage quoted above correctly represents the tenor of his volume. The distance which separates the social motivation of the sub-human primates from that of the human is well expressed in the following quotations. Referring to the constant picking over of one another's fur by anthropoids, with its apparent sexual stimulation, Zuckerman says:

> For this reason and because of its frequent expression, it is perhaps legitimate to regard the picking reaction and the stimulus of hair as factors involved in the maintenance of a social group of sub-human primates. [Among other mammals] a social group endures as long as its members are sexually potent. . . . The anoestrus (or non-mating condition) is a convenient starting point for the discussion of the behavior of this group of mammals. . . . In the present state of our knowledge, it is impossible to define animal social relationships other than those of sexual male and female, and nursing female and offspring.[2]

Others have extended their investigations to the study of the social insects, notably termites, ants, wasps, and bees, and here we meet the phrase "insect sociology." But in this field, even more than in that of the anthropoid primates, the difference in mode of life from that of human groups is so great that the word sociology itself is almost all the two sciences have in common. There is, of course, the formal fact that creatures of all orders live together. They have associates, companions, *socii*, and in that sense they possess society. Since "sociology" in its generic sense means the study or science of the social group, it is not improper to extend it to the examination of sub-human primates, and even of lower animal forms on the level of the insects or still simpler organisms. But the most significant thing thus far emerging from all such inquiries is their uniform tendency to throw human cultural society into clear relief as a distinct and unique order of phenomena.

---

[1] *The Social Life of Monkeys and Apes*, by S. Zuckerman, Anatomist to the Zoological Society of London. Demonstrator of Anatomy, University College, London. New York, 1932. See Chapter II, especially p. 19.

[2] *Ibid.*, 58, 59 and 61.

The elaborate social organism of the bee-hive has been described by many able writers, by none more instructively and eloquently than Maurice Maeterlinck in his really classical book, *The Life of the Bee.* He finds therein "a perfectly diabolical intelligence," so efficient yet so different from our own that it arouses feelings akin to fear when contemplated. The specialization of functions among those "monarchical socialists," as he aptly dubs them, is amazing, with its architects and builders of cells, its pollen-gatherers, nectar-bringers, doorkeepers, ventilators, drones, queen and her body-guard, nymphs, and all the rest.

Alongside the bee-hive let us place the ant-hill, with its captive aphids and captor ants of various orders, its concerted, rhythmic, almost choral labor, its engineering, slave-holding, stock-raising, warring activities—the whole a marvel of social solidarity and cooperation fascinating to naturalists and sociologists alike. Yet all this is rooted in morphological and instinctive adaptation to the environment in both its physical and social aspects. Those creatures are literally *built for* their specific social order and their own individual roles within it. In his monumental work on *The Social World of the Ants,* Henri Forel remarks that there are seventy-five hundred different species, races and varieties of ants, each with its specific instincts. This, when augmented by the numerous morphological variations within each species, raises the number to twenty-four thousand or more different kinds of ants.[3]

Here we behold social adjustment and vocational adaptation carried to the highest degree. For instance, such investi-

---

[3] Op. cit., I, 42.

gators as Forel mention, in a single hill, a class of big, strong-limbed ants specially built to drag leaves to the colony, where a second group with exceptionally huge and powerful jaws chop the leaves into large segments. These pieces in turn are minced to a fine mulch by still others characterized by small and rapidly operating jaws. All these structurally different ant-classes are cooperating toward the single end of providing a suitable culture medium for the growing of a certain kind of fungus designed as infant food for the oncoming generation. The ant may be said to have "a head for his job" in the above instance, and even more literally so in the case of the "door-keeper ant," whose special vocation is to block the entrance to the den, situated in a rotten tree-limb, by thrusting his huge over-grown head, shaped exactly to fit, into the entrance-tunnel, bored by the queen-mother when she first entered and prepared to lay the eggs that represented the future colony! This colony, when it hatches out, develops among others of different type, sons whose oversized heads exactly fit the opening, in respect to size, shape, color, and texture;[4] and these constitute the doorkeeper class.

The basis of such societies is not only known to be instinctive and structural at bottom, but naturalists have pointed out that the presence of neuters, that is, sexually undeveloped individuals, presents the key to insect society. An insufficient nourishment supplied by their parents to these individuals causes in them a morphological modification, namely an atrophied condition of the sex organs. This results in a partial suppression of their instincts. The desire to mate is sublimated in an altruistic devotion to the offspring of their sexually developed siblings. Consequently, they partially starve themselves, and so remain sexless, while they lavish upon the young of others the gatherings of their labor. Says Lameere:

> The initial couple among the termites, the nest-building fertilized female among the hymenoptera, would not have been able to furnish their young with the food necessary to the development of their genital organs. This misfortune would have been able to

---

[4] *Cf. Forel, ibid.*, II, 289.

> entail the extinction of the species had not the social life come to save it. . . . The neuters are extraordinary beings, capable of maintaining their existence, being useful through their behavior. They bear witness to the triumph of life through death.[5]

In social aggregates of this kind we behold a type of behavior essentially different from that of human groups. The eggs of any insect swarm, carried half-way round the globe, will hatch into creatures who repeat in all its elaborate details the social arrangements of ancestors whom they never saw. Indeed, that is what happens in the regular course of events among the wood-boring beetles and the seventeen-year locusts. The wood-borer lives its own life, lays its eggs and dies, passing from the scene before its young are born. These in due time hatch out, enter untaught upon the same round of social activities, and follow exactly in the footsteps of ancestors of whose existence they can have no knowledge by any process known to us. Without father or mother, without sons or daughters, they live in an eternal present, perfectly adjusted to their own familiar social world of contemporaries, and also to two social worlds of which they are apparently completely unaware, namely their own ancestors and descendants.

If we couple with this fact, noted above, that bodily structure determines behavior among such creatures, we may conclude that their behavior has repeated itself without modification for millions of years, as revealed by the bodies of ants once entangled and buried in the resin of primeval pine-trees and preserved for our eyes in that same gum petrified by milleniums into our present-day amber. Their living descendants probably act just as their fathers did a million generations ago, and doubtless the wood-boring beetles are doing likewise, but in one sense there has been but a single generation during all that vast lapse of intervening time.

In behavior of this type, which is never learned and never forgotten, which moves by untaught methods to an unforeseen end, there is exemplified the internal storage of race experience, registered in the germ plasm, and operating by means of instinctive behavior patterns. It bridges a time-gap during which no fully developed and really living member of the race exists, being carried across solely by the tendencies inhering in the germ plasm and only partially expressed in the inert and slumbering larval beings.

---

[5] "The Origin of Insect Societies," by Auguste Lameere, in *Annual Report of the Smithsonian Institution,* 1920, pp. 511-521. Also "Insect Sociology," by Vernon Kellogg, in the *Scientific Monthly,* Vol. 21, (September 1925); pp. 257-259.

In the case of the higher animals one faces a different situation. They also live in groups and manifest social behavior of the instinctive order in the main, but with important modifications. Here the lives of the generations overlap, the example of older individuals, and even their instruction and training, becomes a factor, and the experience of the individual is supplemented by that of a continuous and never-dying group. In this respect a flock of birds or a herd of cattle presents a social phenomenon of an order quite distinct from that of a swarm of insects. Consequently a new level of life emerges, namely that marked by the internal storage of individual and parental experience, registered in the somatoplasm, particularly the individual nervous system, and operating by means of habit patterns.

On this life-level we perceive the higher animals with overlapping generations where the experience of older individuals immediately associated with their offspring is transmitted by imitation and inculcation. Conradi's sparrows, learning to sing canary songster notes when placed among canary birds, come under this head. Likewise with flying lessons imparted by older birds to their young, if it actually occurs, and the walking-lessons reported with respect to the female chimpanzee and her off-spring, all these would be examples in point, if actually transpiring. Zuckerman says that "no such behavior has been observed amongst the baboons of the London colony," although he prints a photograph of a baby baboon beginning to walk, with a legend reading: "Its mother's hand is raised, ready to lift it from the ground."[6]

---

[6] *Op. cit,* p. 160, and Plate XXII. Hornell Hart and Adele Pantzer mention a half-dozen or more examples in their paper, "Have Sub-Human Animals Culture?" Cf. *American Journal of Sociology.* Vol. XXX., No. 6 (May, 1925); pp. 703-709.

In the two ways indicated experience is stored by animals, thereby enabling them to carry the past forward with them into the future. Time really counts with them, for like all living organisms they are "time-binders," to borrow Count Korzybski's phrase. They are different now by virtue of what they were then, having stored within themselves tendencies to act which cause them to contribute to any behavior situation an element which transcends a purely mechanical description or explanation. If one propels a toy frog with the toe of his boot across the floor its speed and direction are predictable in terms of the force and angle of each thrust and the resistance of the floor. Replace the porcelain frog with a live one and all calculations become mere guesses, inasmuch as a frog of this sort may leap into the air or straight at the aggressor, according to tendencies stored up within his skin. These may be the instinctive behavior patterns of his race or species, or the habit patterns formed through his own experience and that of his immediate associates. Both of these are internal storages, the one in the germ plasm, the other in the nervous system.

Man possesses both the patterns already described, and a third one besides, the last being peculiar to his kind. This is the external storage of communal experience, registered in the form of tools and symbols, and operating by means of social values with their corresponding attitudes in persons.

This third form of experience storage[7] deals with social values and is the distinguishing process of human, as contrasted with sub-human forms of life. Insects of the type described inherit nothing from former generations except their bodily form and the instinctive behavior patterns that go with such bodies. All this is transmitted across the time-gap from generation to generation. The higher animals receive this heritage and also whatever is learned by direct personal contact with the parent generation. This second form of heritage cannot bridge a time-gap, however brief, so that experience won by any individual dies with him unless transmitted by direct contact to his imitators.

---

[7] I am indebted to Professor L. L. Bernard for this idea of the storage of experience. It has been stimulating to my thought, but he is not to be held responsible for the particular use of it made here. See his paper entitled "Factors Basic to the Evolution of Culture," in the *American Journal of Sociology*, Vol. XXXII, No. 1, (July 1926); also "The Classification of Culture," in *Sociology and Social Research*, Vol. XV, No. 3 (January-February, 1931).

Not so with the third method. It is entirely outside the germ-plasm and also outside the individual, in so far as it exists in the form of tools and symbols. It is in that sense super-individual, and also in the sense that it is created in groups and is transmitted only through groups. It is, as already said, *communal* experience, using the word communal to denote not only one's contemporaries but also his ancestors and forerunners in general. The possessor of culture lives his life in common with men and women who vanished from the earthly scene hundreds or thousands of years ago. The stored experience of countless generations becomes in part the experience of all who understand the meaningful group-objects, material and spiritual, which constitute the social values of the community in question, and who share the attitudes which the group takes toward them. This is what Pascal had in mind, no doubt, in his famous saying that "the whole series of human generations during the course of the ages should be regarded as one man ever living and ever learning."[8]

It is literally true that any one of us may be closer in spirit to men or women of a thousand years ago than to people he meets every day. This is possible without the mediation of those contemporaries themselves. So Petrarch, advance agent of the Renaissance in Italy, used to lie upon some lofty Roman ruin under the blue Italian sky, and wonder what race of intellectual giants reared those imposing structures, while down below him as he mused, neighboring peasants were busily quarrying the hewn blocks from the walls and carting them away for the building of hen-coops and pig-stys. When Petrarch, by the aid of Chrysoloras, brought over from Greece, learned to read the Greek language, he and his contemporaries were enabled to pass through the pages of long-neglected and musty parchments into the long-vanished life of the Golden Age that produced Socrates, Plato and Aristotle, and to commune with them across the chasm of a thousand years and more.

---

[8] Quoted by Professor McQuilken De Grange in the critical "Appendix" to his translation of Turgot's essay, *On the Progress of the Human Mind.* De Grange quotes thus from Pascal, who anticipated Turgot in the idea, usually attributed to the latter. The Sociological Press, Hanover, N. H., 1929.

Nowhere have I seen so striking an example of this power of culture experience to transcend the ages, than in the following incidents related to Professor René Worms by Achilles Ouiy, his editorial associate on the staff of the *International Review of Sociology:*

> When he made to me his final recommendations concerning the Sociological Society, the Wednesday which preceded his end, he expressed his desire to live a few hours longer in order to know what was said at the session of the society, which met that same evening! Then divining no doubt the emotion that agitated me, he wished not himself to yield in the least, and, smiling, he related to me, in the Greek text, a short passage from the *Phaedo,* on "the fine hazard of the great departure." Then, without weakening, he made with the hand a gesture of friendly dismissal, a cordial signal of definite farewell.[9]

In this instance we see Worms, a French scholar of our own times, sustaining himself in the hour of death, with the recollection of the sublimely heroic experience and teaching of Socrates twenty-five hundred years before, and quoting his immortal words in the very language in which they were first spoken. In the face of such incomparable experiences it seems absurd to discuss seriously the contention of those who seek to claim for animals also any comparable part in culture heritage. Not that one would arbitrarily exclude them, or deny their strikingly intelligent doings, which we shall have occasion to recount in a later passage; but simply because their mode of life is very evidently of a different order. The very large majority of thinkers in every field of science would seem to recognize in culture a distinctive, even if not absolutely exclusive, human trait. The fact is well attested. Our next task is to explain, if possible, just how this holds true.

In discussions of this problem, the definition with which one sets out is highly important for the conclusion. In Hart and Pantzer's admirable paper they define culture as "behavior patterns socially acquired and socially transmitted," and proceed to show that sub-human animals possess such patterns and manifest such behavior. If we may accept the facts as established, which is not perfectly certain, it follows that animals possess culture in the sense defined. But in that event behavior of a distinctly different order among humans remains over and unexplained. We are consequently left to choose between calling the animal behavior described by them "cultural," and seeking a new term for denoting human behavior; or, on the other hand, deciding to call the animal behavior in question "sub-cultural," and reserve the word culture, as most thinkers do, for behavior of the distinctive human type. In this discussion, I choose the latter course, because thus only can one do justice to both the ascertained facts and the established terminology.

---

[9] In the *Revue Internationale de Sociologie,* Vol. XXXIII. (1925), p. 580.

In order to escape a battle of mere words, we need to stick closely to our analysis of the three types of experience storage, whereupon it becomes quite plain that animals below man have not been found, in a natural condition, to be possessors of our third form of heritage. Culture is whatsoever man (or any other creature) has learned as a member of society, has stored externally and transmitted socially, by means of tools and symbols, in the form of social values together with their corresponding attitudes in persons. This is the storage of communal experience in the third form set forth in an earlier passage. Its essence consists in tools and symbols, and to an attempt at the analysis of such things this discussion must next be directed. And here again an examination of sub-human behavior will probably shed most light, not for its own sake, but as setting forth by contrast the significance of the tool in human behavior.

Bergson's early remarks on this question, which is producing a considerable discussion of late, have not been surpassed. Recalling the furious debate which raged over the eolithic discoveries of Boucher de Perthes in France a generation or two ago, he says:

> The question was whether real hatchets had been found or merely bits of flint accidentally broken. But that, supposing they were hatchets, we were indeed in the presence of intelligence, and more particularly of *human* intelligence, no one doubted for an instant.[10]

Referring to the well-known collections of anecdotes on the intelligence of animals he concludes that those nearest man, such as apes and elephants "can use an artificial instrument occasionally." Those lower down can *recognize* a constructed object, for instance a trap. None of them invent or construct artificial instruments, although "towards that achievement the intelligence of animals tends as toward an ideal." He seems to think that man is really more of a maker than a thinker, the original feature of human intelligence being "the faculty of manufacturing artificial objects, especially tools to make tools, and of indefinitely varying the manufacture." Then he propounds and answers the crucial question:

> "Does an intelligent animal also possess tools or machines? Yes, certainly, but here the instrument forms a part of the body that uses it; and, corresponding to this instrument, there is an *instinct* that knows how to use it.[11]

The notable work by Köhler on *The Mentality of Apes*,[12] contains many profound observations made at the ape colony in Teneriffe, North-West Africa. Hornaday, in his interesting volume, *The Mind and Manners of Wild Animals,* based largely upon personal observations, gives many fascinating accounts that clearly reveal a surprising intelligence in various species, although one finds few if any evidences of tool-using capacity and none of their fabrication. In the delightful, photographically illustrated studies by Enos A. Mills in his book entitled *In Beaver World,* the elaborate and extensive operations of the colony are so clearly shown to be the adaptation of means to ends that it can hardly be explained by instinct.

---

[10] *Creative Evolution,* by Henri Bergson. Mitchell's translation. New York, 1911 and 1924, p. 137.

[11] *Ibid.,* 138, 139.

[12] *The Mentality of Apes,* by Wolfgang Köhler; New York, 1925.

The Indian Tailor Bird is also one of the most promising claimants to tool-using intelligence, as described by observers in Ceylon.[13] Her work is said to include the four distinct processes of sewing, rivetting, lacing and matting.

If we lay aside the examples of animals under the direct care of man, and consider only those in a wild state, where the case must rest, it appears that their work consists in the modification of environment by the direct action of their own organs, without the mediation of any instrumentality whatsoever. Even the often mentioned trap-door spider follows the direct method, and her gossamer-lined tunnel, trap-door included, is after all simply a highly ingenious and elaborately finished nest. The same has to be said of the beavers. Their marvellous colonies, dams, ponds, canals, and houses should be regarded as a huge nest, in the sense that it consists of nothing else than the natural environment as modified and shaped by the unaided organs of the beavers themselves. The only exceptions that have come to my notice are the use of a pebble by the hammer-beetle to tamp down the loose earth around her doorway; and the utilization of her own larvae by the ant, *Camponotus senex,* as a sort of shuttle for the weaving of her web, that insect being able to spin threads only in the larval stage.

In these two cases only does the animal make use of anything that could be regarded as partaking of the nature of a tool. For a tool is essentially an abstraction and an instrumentality, and not an organ. Animal tools in Bergson's sense are simply organs. They are natural, not artificial. The organ is grown by nature, but the tool is devised by the wit of its user. The simplest form of devising is simply the selecting of the suitable object when it lies at hand, be it a spinning larva, or a pebble, or some other thing suited to work in hand. Animal achievement does not reach even this lowest stage except in the possible instance of the hammer-beetle's pebble and the larva-shuttle of *Camponotus senex,* and other ant species.[14]

---

[13] Cf. "The Nest of the Indian Tailor Bird," by Casey A. Wood, in *Annual Report of the Smithsonian Institution,* 1925, pp. 349-354.

Whatever may be thought of the typical or atypical character of these instances, at the next stage, namely that where tools are deliberately fabricated, the entire world of subhuman creatures is left behind. This fact is itself less important than the conditions that account for it, for in them we shall find the secret of the tool and of culture.

All the evidence points to the conclusion that the experience of creatures below man is an undifferentiated concrete whole, into which the animal is merged as an integral part incapable of separating itself in consciousness, and hence having no room for any mediator or instrumentality between its own organs and the aspects of nature with which they correlate.

Bergson developed this thought with incomparable insight and lucidity in his *Creative Evolution.* The following passage is only one out of innumerable flashes with which his genius illuminated the problem:

> Instinct is molded on the very form of life. While intelligence treats everything mechanically, instinct proceeds, so to speak, organically. If the consciousness that slumbers in it should awake, if it were wound up into knowledge instead of being wound off into action, if we could ask and it could reply, it would give up to us the most intimate secrets of life. For it only carries out farther the work by which life organizes matter —so that we cannot say, as has often been shown, where organization ends and where instinct begins.[15]

The significant ideas here are that instinctive life, which is animal life, is not precipitated into knowledge but flows away into action. The animal and its environment are one. It floats in the stream of pure duration as a fish floats in the river unaware of the river or of itself as such. Man prates about being "a part of all that I have met;" the instinctive animal does not poetize about it but just *is* that. You and I lived that way for some years, and probably our earliest memories have to do with stressful experiences where the bright mirror of life's smoothly flowing stream was momentarily shattered as the conscious ego began to emerge.

---

[14] Cf. *The Social World of the Ants,* by Henri Forel, II., 280-282.
[15] *Op. cit.,* 165.

Spengler here, as in other passages, runs strikingly parallel to Bergson. In discussing the beginning and eventual supremacy, in human experience, of "the light-world of the eye," he says:

> And with this there emerges in all clarity yet another distinction, which is normally obscured by the use of the ambiguous word "consciousness" (*Bewusstsein*). I distinguish *being* or "being there" (*Dasein*) from *waking-being* or "waking consciousness" (*Wachsein*). Being possesses beat and direction, while waking-consciousness is tension and extension.[16]

The animal is a being; man is a waking-being, in the language of Spengler. In Bergson's terminology the animal, following instinct, is turned toward life; man is shunted off toward inert matter. As he expresses it,

> Intelligence, by means of science goes all round life, taking from outside the greatest number of views of it, drawing it into itself instead of entering into it.[17]

This comes very near to stating it in the words that have seemed, in my own thinking on this problem, equally accurate and more convenient. Animal instinct operates by *synthesis* and apprehends the *concrete;* human intelligence pursues *analysis* and ends with the *abstract.* The one walks with life; the other traces the footprints left by life. The method of human intelligence is to *abstract* from the total situation one or more single aspects of it. The primary and everpresent form that this takes with us is to set *ourselves* over against the physical or social environment, as something distinct from it or opposed to it in varying degrees of sharpness. One cannot imagine a beaver as operating upon its environment. It *is* the environment, at least to the degree that it works within it rather than upon it. It uses the organs that have *grown* by the interaction of the life-forces in the configuration or *gestalt* which includes equally itself and the thing that we spatially thinking humans speak of as its environment. In consequence of this we take to tools, which are, it is true, extensions of our natural organs

---

[16] *The Decline of the West*, II, 7

[17] *Op. cit.*, 176.

(the primitive hammer-stone a magnified fist; the club an extended arm; the war-club a magnified fist on an extended arm), but they are more than extensions. A tool is essentially an abstraction and the servant of abstraction. Whereas the beaver expeditiously gnaws down trees with its own sharp teeth, primitive man gnaws them down laboriously with his dull flint axe and thereby introduces a free-floating factor which is not confined to trees or to its owner. It is tied up to no specific situation, but works anywhere within a vast number of situations of the generic chopping type. Thus every tool is, in the most literal sense, an abstraction.

It is not so obvious that a tool is also a symbol,[18] but reflection will show that it is. This may be facilitated by observing first that a symbol is itself a tool—a tool of the mind. Language, mathematics, and logical methods were explicitly so called by Lester F. Ward in his *Pure Sociology*, and it is clear why that is true. Just as an axe is an instrumentality interposed between the human body and some portion of the physical environment, likewise a symbol is an instrumentality interposed between the mind and its social environment. In the one case the activity of the user modifies, through the tool, his physical surroundings. In the other, his activity affects, through the symbol, his social and mental environment. A symbol is therefore a tool whereby the agent, abstracted by virtue of his waking-being from the total life situation, operates to bring himself back into closer communion with it. Moreover it is in the nature of a symbol to stand for something besides itself and to be freely interchangeable in countless situations, as in the infinitude of words that can be spelled with the twenty-six letters of a single alphabet, or the countless truths and falsities that can be demonstrated by means of the same formal reasoning. All this is plainly true of symbols but it is also true, not quite so obviously, of tools. They, for example an axe, stand for something besides themselves. Who wants an axe that no longer cuts things? It is no longer an axe. But so long as it is an axe it stands for chopped trees and other desired goods. Finally, like any letter of the alphabet it will work freely in every situation, no matter how long and varied the list, where its nature enables it to serve life activities, more explicitly human activities. So in the two-fold sense that it is mediatory and interchangeable a tool is a symbol. Conversely a symbol is a tool; and both are the product and the producers of abstraction, the hallmark of intelligence and waking-being. This is both good and bad. It gives to man the glory of being the only *maker* in the created world—Bergson would substitute as our zoological designation *Homo faber* for *Homo sapiens*. He thus implies that we are makers rather than thinkers, but man is the latter also—perhaps too much so—and Shakespeare might just as truly have said, considering the spiritual famine that threatens our race, "Yon *Homo* hath a lean and hungry look. He thinks too much."

---

[18] Professor L. L. Bernard says, "All physical inventions are forms of writing, because they become symbolic controls for the mediation of adjustment responses." *American Journal of Sociology*, Vol. XXXII, p. 198. (July-May) 1926-1927.

OCTOBER

BY JOHN R. MORELAND

October is a miser puffed with pride,
And Midas-like, his subtle touch has turned
All things to gold. I watch him stand aside
Gloating upon the power that has burned
Leaf loveliness of jade to yellow metal,
While trees and vines and shrubs and curling weeds
Grow russet, and each lovely, fragrant petal
Yield to the power which from his hand proceeds.

But, ah! there comes this bitter thought to you,
October, and the furious argument
Presents itself. Can the dream old or new
Be bought with gold? Can life reclaim hours spent
In glitter? And what profit, when the old
Problem is finished, and the answer told?

SEMPER FIDELIS

A Half-Act Play

BY RUTH ALMA ECKHART

CHARACTERS

The Hewer of Wood, a pragmatic realist	The Drawer of Water, a monistic idealist

The Essayist
(John Locke)

Scene: A bit of a clearing in the Idean Wood. The fire by which, we surmise, the woodsman has been cooking his dinner, still faintly glows; a few simple utensils are in evidence, also a few drinking-cups of tin. He is hard at work, this Hewer of Wood. Heavy, telling strokes enforce the accents of his voice as he indulges in his customary pleasure of talking with the most sensible man he knows, himself.

The Hewer of Wood

Down, axe! . . . Down, tree! . . . Down, delusion!

The Essayist

(at some distance, calling)

Substantia!

The Hewer of Wood

What's that?

Another stranger fool enough to come
Within the bounds of the Idean Wood
And think to hold his course!

The Essayist

(now appearing through the underbrush)

Substantia!

I'll come to you if you but tell me where.

(He sees the Hewer of Wood)

Pray have you seen her whom I seek. I thought
To find her long ago—at least to know
The place of her sojourn. But in this maze
Of path and no-path all immersed in shade
I am at loss.

The Hewer of Wood

And not the first to be.
But who's the girl? She's likely entertained
By some lone woodsman like myself, who's glad
To rest his axe at times and feast his ears
On chatter of squirrels and other pretty things.
She's safe enough, no fear.

The Essayist

Yes, yes. But where?
I've followed each suggestive sound. I've tried
One path and then another, then another,
Battered the heavens with my wild halloo,
Yet find her not. My poor Substantia . . . Lost . . .
(sinks down upon a log, dejected)

The Hewer of Wood

Not so, perhaps. I've seen some buxom girls
Trip by. What was she like? A girl of size?

The Essayist

Of size? Of course! Was ever girl without?

The Hewer of Wood

A boorish joke! *What* size? Like this? Or this? (indicating)

The Essayist

(in moody abstraction)
I know not. All I know is that I want
To find her, and I cannot.

The Hewer of Wood

Man, what a *bad* case!
But I'll rouse him . . . Say, has she eyes? What color?

The Essayist

(still pensive)
Color? Why, violet, blue, or brown, or gray,
All colors. No color. What you will.

The Hewer of Wood

(more derisive than considerate)
White eyes!

Uh-humph! Expressive face! I hope to see her.
Sure she's in this wood?

The Essayist
(on whom all derision is lost)

If she is not,
I have no clew at all.

(The Hewer of Wood has picked up his axe as an instrument with which a man may make real headway, when a musically whistled tune breaks on the air.)

What do I hear?

The Hewer of Wood

Perhaps her music. Does the fair one whistle?

The Essayist

I cannot say. She has so many powers
Little suspected till they're proved to be.
But here the warbler comes—and not a maid.

(The Drawer of Water has come upon the scene, stepping as jauntily as is possible for a youth who carries, with the aid of a sturdy rope about his shoulders, two well-filled buckets of water.)

The Drawer of Water

(managing a flourish of his hat if not a highly successful bow)
Greetings again, old feller of trees, from Myself
And my (singing)
"Bucketfuls of blue sky out of a placid pool."
How sets the weather on your set of nerves?
And who's your friend?

The Hewer of Wood

His name's Constantius.

The Essayist
(a bit nettled)

Wrong.
You had no name from me.

The Hewer of Wood

But I gave you one,
Something for nothing, one might say . . . This man
Is looking for a girl he can't describe.
Constant, but dumb. He dreamed of her, that's all.

The Essayist
(with sad finality)

If she *is* not, then all I've thought is real
Is dream, and only dream.

The Drawer of Water

Well, what of that,
So long's the dream is pleasant, and goes on.

(Here he observes that the Hewer of Wood is surreptitiously helping himself from one of the buckets.)

Aha, my friend! You crave some sparkling coolness.
But say, what hinders to some fragrant hotness?
Provision's here. Stir up and feed the blaze.

(He produces a small packet of tea. Some water is quickly transferred to a pan; whereupon the genial one leaves the festive preparations to his friend, and perching himself with a bound on a low-hanging bough near the Essayist bestows on him his most engaging smile.)

Now for your tale. The lass you love is lost?

The Essayist
(meditatively)

I would not say I *loved* her. She was my playmate;
Went to school with me. She was well thought of
In the schools, more so than I. And then
We quarreled. I teased her—said some ugly things
About her dubious forebears. True enough,
But not to hurt her. Then she struck at me . . .

The Drawer of Water
(roguishly)

But not to hurt you?

The Essayist
(all seriousness)
That I cannot say.
Her blow fell like revenge. And then she ran
Away. Since then, repentant, I have felt
Such eagerness to shield her, make amends,
I almost think I love her.

The Hewer of Wood
(playing host)
Tea's the word!

The Drawer of Water
Serve me no words. I crave the tempting taste,
The slowly swirling steam, the Orient odor,
Warmth for my blood, and cheering for my soul.
Tender me these and say "Insecticide,"
I'll love you still.

The Hewer of Wood
Your mouth's for drinking now.
(He passes well-filled cups to his companions.)

The Drawer of Water
And tea's for toast! To Constantius! Long may he live!

The Hewer of Wood
(With just a tinge of sarcasm)
Substantia! May she exist!

The Drawer of Water
I'm sure she does—
For him.

The Hewer of Wood
You really think she's in this wood?

The Drawer of Water
Most certainly, if ever she was in.
Did ever one get out?

The Hewer of Wood
Not yet, perhaps.
That's why I'm chopping trees. When I have done

There'll be no wood, no mysteries like this.
Suppose I find her, then I'll know for sure
That she exists, and not for just him, either.
Another cup?

The Essayist

(waking up in time to decline)

My thanks. Your words, kind sirs,
I do not follow.

The Drawer of Water

What need? You follow her.

The Essayist

You're right . . . I do . . . I must. My hope is faint
That I shall see her face. But in the quest
I find my only peace. She is my guide
If not my comrade. Hark! A faint, faint call
As from the World-beyond-the-Wood. She's there!

The Drawer of Water

Calm, calm. There's no such place.

The Essayist

Ah! but there is.
And she, not I, has found it. Substantia!

(He is gone. The others look at each other for a moment with something akin to mutual understanding. Then they return, one to his axe and tree, the other to his rope and buckets. Preparing to leave, the Drawer of Water pours out a liberal supply of water for the woodsman.)

The Drawer of Water

I'll leave a bit of coolness here. Good-bye.

The Hewer of Wood

Thanks for the water. Useful. Come again.

The Drawer of Water

(singing)

"A bucketful of blue sky from out a placid pool, Cover of woodland silence,"

. . . .

(his voice trails away)

The Hewer of Wood

(resuming his task)

Down, axe . . . *Down,* tree . . . *Down,* delusion.
Man must live...You must die...*Down*...*Down*...*Down.*

The End

PHILISTINE

BY ANDERSON M. SCRUGGS

The cold, insensible machine he vainly calls his mind
Is but the clicking instrument to gain his venal goal.
His blood beats to the rhythm of the wheels of greed and grind;
It fills him with a vague alarm to think about his soul.
He has no place for beauty or for culture in his heart;
His thoughts are boomerangs that scribe a path of gain and loss;
He glories in the practical and deprecates all art;—
Life is to him a lottery, a game of pitch and toss.

When Death the indiscriminate, the leisurely, comes by
And presses on his frantic lids their last unwilling sleep,
O irony of ironies that he should come to lie
Where cedars bend in revery, that men should come to weep,
And preachers praise his beauteous life as he is thrust to rest
Upon a green, poetic hill, with roses on his breast!

THE MEANING OF BIOLOGICAL HISTORY

BY F. C. S. SCHILLER

We are probably by now sufficiently removed from the bitter controversies which accompanied the rise of Evolutionism to discuss the implications of Evolution in a calm and philosophic spirit. When we do this, we can hardly congratulate any of the parties to these controversies. We cannot say that either the scientists or the theologians or the philosophers behaved creditably, or covered themselves with glory, by their reactions to the new ideas.

The scientists showed themselves very blind to the wider philosophic implications of the idea of cosmic evolution. This might, perhaps, have been expected, since they were not philosophers; but they had little excuse for failing to work out the relations between evolution and progress, and none at all for mixing up evolution and epigenesis, and for saying the former where they ought to have said the latter. Lastly, they were badly deluded about the logical implications of evolution, and greatly overrated them; in particular it was a delusion that they had at length finally confuted teleology.

The theologians, on the other hand, were very stupid to have allowed themselves to be thrown into such a panic by the scientists. For the new ideas were by no means all hostile to their thesis. They could have disarmed their foes by blandly accepting all the scientific facts and putting their own interpretation upon them. Thus they could, and should, have said: "Thank you very much. Evolution is very important, and very welcome. It reveals to us what we have long sought to know, namely, the method of creation. And it finally refutes the profoundly atheistic notion of an immutable, mechanical universe. But we think you are curiously one-sided and unfair in your treatment of biological history. You seem to regard it merely as a way of developing the higher organisms out of the lower, that is, of reducing the higher to the lower. But you should view it also the other way round. The lower organisms have led up to the higher, and you should reconsider them, and your view of the whole process, in the light of what they have been able to achieve. So you should not merely construe biological history as tracing man's descent from an ape, but should also conceive the ape as capable of ascending to manhood. In a history the conclusion is surely at least as significant as the beginnings, and, seeing that the end is not yet in sight, may not the chief value of the study of the past history be to reveal to us the trend and purpose of events, and to point to a future consummation? Secondly, may we be permitted to point out to you why we think you wrong in imagining that you have rendered superfluous and untenable the whole idea of teleology?"

Lastly, the philosophers were very slow in appreciating the very novel and important implications the new ideas had for philosophy, not only for metaphysics, but also for ethics and logic. For example, I believe that I was the first to point out, in 1912, that Darwinism entailed a revolution in logic.[1] For Darwinism enabled science to explain the likeness of the individuals of a kind by their common descent, and rendered superfluous the assumption of Platonic universals. It thereby completely vindicated the nominalistic conception of kinds as conveniences of human classification.

Instead of assuming a reasonable attitude to the new ideas and appreciating their value, all three parties lost their heads and their tempers. We need, however, to concern ourselves only with the scientists; for they, after all, were the originators of the whole commotion. Let us begin, therefore, with a logical analysis of Darwinism.

Scientifically speaking, the primary importance of Darwinism consists in the fact that for the first time in history a rational explanation was given by it of the multifarious likenesses that pervade the world of living organisms; it replaced myths by facts. It explained why a dog was so like a wolf, and a cat so like a tiger, while a dog and a cat were far more unlike. Likeness was explained by the principle of community of descent: the greater the likeness between two species the nearer they were to a common ancestry; the more unlike they were the further they had diverged from a common stock.

---

[1] This discovery was not noted again till 1931, when Mr. M. B. Foster thought he had made it for the first time. See his article in *Mind* for January, p. 16.

To explain further how a common ancestry might lead to a differentiation of species, Darwinism relies on three conceptions. They may be called Heredity, Variation, and Natural Selection. The last of these is the elimination of the unfit or less well adapted, which is a necessary consequence of the struggle for existence, resulting from the natural fertility of living organisms. Heredity is the conservative principle, in virtue of which offspring resemble their parents. In beings with sexual reproduction this resemblance is never complete, for the offspring inherit their qualities from both their parents. This produces *part* of the variability which distinguishes living beings. But not, it would seem, the whole; for variation occurs also among organisms which reproduce asexually (like bananas!). Variation, therefore, comprises not only the reshuffling of already existing characteristics, but also the intrusion of definite *novelties.* It is thus the pigeon-hole Darwinism provides for creative novelties of the sort which produce the one-way course of the real. It is the principle and source of innovation. But it seems to belittle creative innovations by calling them "accidental variations." We shall presently see how important it is not to misinterpret this phrase.

The third principle of Darwinism, Natural Selection, would appear to be a piece of purely mechanical sifting. It is *not* creative; it originates nothing, and merely eliminates. Moreover, it is applicable, not only to living organisms, but to any aggregate that can be sorted. E.g. a river current carrying detritus into the sea will drop the heaviest stones first, then the lighter, and will finally deposit the finest mud. Hence it may be said to have *selected* this and eliminated the rest, if mud is what we are interested in. Of course, although the process is mechanical, it may enter into a purposive *technique,* as in the recovery of gold from a gold-bearing gravel. It is, however, on account of this aspect of natural selection that we can speak of the evolution of what we consider inanimate things, such as the chemical elements or the stars.

From the interplay of these three factors Darwinism undertakes to derive all the varieties of organic life. It argues that since every kind of living being can produce far more young than can possibly find subsistence, only a small fraction of those born can survive to reproduce their kind. The rest must be eliminated. But this elimination is not a wholly fortuitous process about which nothing can be predicted. For organisms are not equally equipped for the battles of life. They vary. Some are better able to adjust themselves to the conditions of life than others. Hence they survive better. This is the Survival of the Fittest, or rather, of the fitter. The fitter, therefore, leave more descendants than the unfit, and transmit to them their superior qualities. And as there are many sorts of fitness, and life is supposed to vary indiscriminately in every direction, Natural Selection will constantly be splitting up one species into many, each adapted better to its own way of living. Both biological history and the present nature and distribution of organisms may thus be accounted for.

An important philosophic corollary is further said to follow. The Darwinian theory is said completely to dispose of the Argument from Design, and to account mechanically for the teleological appearance of the organic world, which has always been its chief support. This appearance is declared to be illusory and pseudo-teleology. For the whole development of adaptation in an as yet unadapted organism is really a wholly mechanical process.

The argument runs thus. Let 100 represent the *optimum* value of a quality conducive to survival, say speed, and let an actual organism, say a rabbit, possess it to the extent of, say 10. Then rabbits will be selected for, and by, their speed. Since organisms vary, if their present speed is, on an average, 10, some rabbits will have a speed of 12 and others only of 8. Now let the struggle for existence be so severe that only the best equipped rabbits can survive to leave offspring. The next generation of rabbits will then be descended wholly from the fastest rabbits, with speed 12. This speed they will transmit to their offspring, as their average. But there will still be variation, let us say between the speeds 10 to 14. Again the devil will take the hindmost: natural selection will eliminate the slow ones, and only those with the speed 14 will survive. Thus in each generation the speed of the rabbit will increase, until the optimum 100 is reached, when the rabbit will appear to be as fast as it need be, and so to be perfectly adapted. Yet the whole process has been purely mechanical. Ergo an apparently teleological world can arise by a purely mechanical process. Q.E.D. And teleology is needless.

Is this argument conclusive? It is generally taken to be so by scientists, but it contains a number of fatal flaws.

(1) The argument's claim to have superseded teleology is unfounded: it has really presupposed it before beginning to explain it away. It did not generate adaptation out of nothing, but presupposed it to the extent of the rabbit's original speed of 10. Had not rabbits been able to run, however slowly, natural selection could not have speeded up their performances. So with every other valuable quality which is fostered by natural selection. However far back the history of life is traced, a living organism must always be presumed to be endowed with sufficient organs to live, *before* any question of its surviving *better* can arise. *This* degree of adaptation, therefore, can not be ascribed to natural selection. So it is simply untrue that the teleological appearance of life has been accounted for *completely*. The argument from an ordered world to an ordering intelligence is *not* disposed of, and still holds.

(2) The growth of adaptation is made much too simple an affair. Only an adaptation to a static and unchanging environment is contemplated. But such is not the usual character of a living creature's environment. A large and important part of it it always composed of *other* living beings that affect it, either

as enemies or as food-supply. These, moreover, are equally subject to natural selection, and are improving their adaptations similarly. So the struggle for existence becomes a competition between species that are changing at equal or at similar rates, and it does not follow that either is gaining on the other in the race. We can not argue from the continuance of *adapting* to a growth of *adaptation.* Hence the survival of one species will not depend only on its own efforts, but also on those of others. To illustrate what really goes on in nature, we should take a more complex case than that of running rabbits: we should consider also *from whom* the rabbits are running away!

Let us take the case of the bird and the worm, and consider the relations of dependence between them. The bird adjusts himself to his conditions of life by catching the worm, the worm by eluding the bird. The result as a whole is a drawn battle. By getting up early the bird catches enough worms to live; by retiring betimes into their burrows, or by emerging only after the last bird has given up the chase in disgust, enough worms escape the birds to keep up the supply of worms. But this is just as well for the birds. For if they grew too expert in catching worms they would devour them all and so could not go on living on worms; they would have to find another food-supply or starve. So each party is in a way adapted to the other. The bird arrests the excessive multiplication of worms, and the supply of worms sets a limit to the number of the birds. How long has this equilibrium of nature existed? In principle it must always have existed. The Miocene thrush must have caught and eaten Miocene worms with the same zest, if not with the same skill, as the modern thrush eats modern worms. In all probability it made as good a living, and no better. For though since then birds may have become more expert in catching worms, so have worms in eluding birds. On balance, therefore, neither is better adapted than before, although no doubt a Miocene thrush could not have caught a modern worm, nor a Miocene worm have escaped a modern thrush. In other words, there is no growth in the degree of adaptedness. The balance of nature depends on this very fact. There always has been adaptation, and there always is adapting; but it does not follow that adaptation is increasing. Generally speaking it does not. A stable and apparently static balance of nature is usually presented.

Hence (3) another interpretation suggests itself. Instead of saying natural selection *produces* adaptation, we should say natural selection *preserves it.* It is the *mechanism* whereby an already existing adaptation is automatically adjusted to changing conditions of life, and it is an excellent mechanism, just because it functions automatically; but it neither accounts for the origin of adaptation nor does it guarantee its growth.

It need not be denied, of course, that as a matter of *fact* there seems to have been a real growth in adaptation, in certain respects, and in certain lines of descent. For example in the pedigree of man. Man has really bettered his position in biological history. He has spread all over the earth. He has become more powerful than his ancestors, and now dominates the earth as never before. That is a fact, but it is an exceptional fact and the reason for it remains obscure.

To understand the precise point of the growth of adaptation, of biological *progress,* we shall do well to analyze the meaning of the word "evolution," and the confusion of thought which it occasions. The word begins its career in the context of a physiological controversy in the early 18th century. The dispute was whether the development of an ovum proceeded by "evolution" or by "epigenesis." According to the evolutionists the limbs of the adult animal already existed preformed in the egg, and merely had to be unfolded or unwrapped; whereas the believers in epigenesis held that they grew on as novelties. In the end the evolutionists were defeated; but their watchword triumphed when it was taken over as the name for biological history, as it revealed itself to the Darwinians of the 19th century. It was not emphasized that the choice of "evolution" meant a denial of novelty, and should have meant a repudiation of the notion of progress. For it still implied that nothing was unfolded but what had been wrapped up in the beginning.

Soon, however, it appeared that biological history had had a trend which it was hard not to term progressive. It was full of novelties, and seemed to move in an upward direction, which had culminated in man. Human vanity, therefore, as well as an unbiased survey of facts, was soon pledged to conceive it as an upward progress, as a process of betterment. So "evolution" took on the old meaning of epigenesis: it was dubbed a "law," and widely construed as a guarantee of progress.

On closer inspection, however, difficulties arose. The progress actually observed was plainly a *result,* and not a law; nor could a law be found, from which it could be deduced. From none of the three factors in Darwinism could be a logical guarantee of progress be derived. Moreover, many cases were soon observed in which biological "evolution" has led to degeneration. Even man was full of degenerate organs. His fur, his claws, his fangs, his ears, his appendix, were obviously degenerate. It was equally clear that on Darwinian principles if an organ ceased to be vital and to be kept efficient by natural selection, it would degenerate, and that no limit could be assigned to such processes either in theory or in fact.

This left the biological progress, which had occurred, up in the air. It was an empirical fact, but no theoretic explanation was forthcoming for it. It left unknown the cause of progress. It left a *lacuna* in the theory of evolution, and left it open to anyone to fill the gap with any suggestion that would impart a progressive trend to biological history. And was not this once more to fling open the gates whereby teleology might march straight into the citadel of Darwinism?

What could Darwinians do about it? Strict adherence to their principles would have required them to admit the fact, but to deny it all significance. They could, and should, have said: "You are right. There is *nothing* in Darwinism to guarantee progress. Progress, however, may occur as a casual result. It will occur if and when it is conducive to survival: so will degeneration. In so far, therefore, as progress *has* occurred, it has been an accident, a fortunate accident, if you please, but still a piece of luck. There is no reason why it should continue. It may cease any moment. And it *means* nothing. We have no right to smuggle our teleological interpretations into the course of history just because we flatter ourselves that we are the consummation of creation."

But this strictly Darwinian answer would have been extremely unpopular. For we are all, even the biologists, wishful to believe that the process which has ended in us must be something fine and significant and destined to endure. If we wish to justify our natural bias and to escape from this depressing view, we had better pry a little deeper into the Darwinian notion of "accidental variation." Let us raise the question whether it should be construed as actual, positive fact or as an assumption of method. Now, Darwin himself appears to have meant by it nothing more than a methodological assumption designed to bring out the working of natural selection.[2] I. e. he meant that he was *not* going to assume that the variations subjected to natural selection had any definite direction or trend. They were to vary fortuitously in every direction, in order that they might not be able to help or hinder or cloak the processes of natural selection. Now, so taken, the notion of accidental variation was a perfectly good and legitimate postulate of method. It was not, and did not profess to be, a statement of fact about the actual character of the variations called "accidental." For this had not then been examined, nor has it adequately been examined yet, nor can it ever be examined sufficiently to rule out certain alternative interpretations. Suppose we had empirically found a slight preponderance of variations in a certain direction, we could not prove either that it was teleological or that it was not. Scientific method will always permit us to take it as accidental, but in so doing it is arguing in a circle. The *data* are essentially ambiguous, and compatible with either view.

---

[2] Cf. *Humanism*, ch. VIII.

But there is, of course, another way of construing an "accidental" variation. It may be taken as a statement about the actual character of the variation. In this case it is a dogmatic statement of fact. As such it is unproved, and perhaps false; but it is undeniably important. For it will then carry the consequence of *excluding* the operation of intelligence from the sphere of biological history; it will rule out the argument from design. It will not, however, be a scientific statement at all, but a metaphysical, and as the scientist should not talk metaphysics, it is reprehensible!

The philosopher, however, may, and should, take cognizance of it. He should view it broadly and discuss it in connexion with the wider question of the comparative merits of causal and teleological explanation. If he is truly broad-minded and critical, he is likely to arrive at conclusions which will displease the extremists in both camps, but will make it clear that the teleological interpretation of history is far from being an exploded superstition, as the dogmatic Darwinist imagines.

The philosopher will begin by scouting the idea that causal explanation is peculiarly scientific and essentially different from teleological. He will point out that both are at bottom human procedures, perhaps all too human. For both arise from the contemplation of the same sequence, *A followed by B*. Now, in the first place this sequence is an artefact, a product of human manipulation of the given fact. It is fixated by human attention, and lifted out of the immense flux of happenings. Have we a right to do this? Only if it proves a success, and can be carried through to our advantage: otherwise our arbitrary manipulation must be condemned as a falsification of reality. However, let that pass, and permit the procedure.

We can next take our sequence, *A followed by B,* and interpret it in either of two ways. (1) We can say, "*because* of

A, B *had* to follow." This interpretation makes the sequence causal. Or (2) we can say, *"for the sake of B,* A had to be." This makes the sequence teleological. In both cases *we* have imported necessity into the sequence—as Hume was the first to observe. In both cases, also, our personal experience prompts, and perhaps warrants, us. For we are familiar alike with the production of "effects" by "causes" and with the realization of "ends" by "means."

So far, therefore, both methods of interpretation are logically on a par, and both may properly be used upon the same material. The sequence A followed by B may be viewed, now causally, now teleologically, according to our purpose in dealing with it. But it becomes more intelligible, if it *can* be viewed teleologically. For teleological action is, we feel, more characteristic and worthy of us, and if it can be successfully transferred to the contemplation of nature, we should feel more at home in the universe. It is, therefore, important to show that it is not forbidden by the theory of Evolution.

Summarizing our results so far, what differences shall we say the theory of Evolution makes to our view of the world?

1) Our repudiation of the Eleatic metaphysic and our adhesion to the process view of reality are strongly confirmed. We are enabled to use, and to confirm in detail, our belief that everything is what it is in virtue of what it has been through.

2) The occurrence of novelties is emphasized, and it is to their timely occurrence that the forward trend of Evolution must in the last resort be credited.

3) This enables us to regard their classification as "accidental variations," as only a methodological device of Darwinism, and not as a statement of actual fact.

4) If so, teleological interpretation will not be excluded. For what seems "accidental" in one context, and from one point of view, may be purposive and highly significant from another.

5) We may, therefore, legitimately entertain the hypothesis that Evolution is the method of creation, and that the aims

of creation may, to some extent, be learnt from its study.

6) The theory of Evolution yields also a positive enrichment of our logical methods. For it supports and sanctions the use of the Historical Method as a method of explanation, and encourages us to apply it to all things.

Now, about the value of this method there has been a great deal of confusion; so it may be well to append a short discussion of its character.

At first sight a merely historical explanation does not seem to be an explanation at all. How is it an explanation of our having five fingers on our hands to say that our ancestors had this number, or even to say that pentadactylism was an original endowment of the mammalian stock? This fact does not inform us why we did not reduce the number of our toes to three or four, like the tapir, to two like the pig, or to one like the ass; nor, on the other hand, why we did not exploit an occasional anomaly to develop a six-fingered race that would have been superior piano-players, and could have devised a better, because duodecimal, arithmetic.

Hence it is commonly asserted that origin does not explain validity. For *validity* we should read *value,* since that is what is really meant.[3] But in a very rough general way the contention may be admitted. Mere knowledge of the history whereby A passes into B does not enable us to understand B any better; nor A, for the matter of that. For it does not tell us how A contrived to become B. So the mere fact that our ancestors were once indistinguishable from apes, or even worms, is not decisive of our present status. It is certainly no reason for aping apes, or feeling like a worm.

Yet the mere protest against offering a history in lieu of an explanation is not the whole story, either. Mere history is not enough; but then the Historical Method is never restricted to mere history. The knowledge it appeals to is never "mere," nor are its facts ever "bare." When it discovers facts it is always in a rich historical setting, and its history is always more than a mere sequence of uncomprehended events. A historical study must be singularly dull and uninspired if it yields no inkling of the causes that were operative in bringing about the historical process, and if it suggests no guidance for the future.

---

[3] *Validity* is only a technical term of Formal Logic, and a superfluity at that.

Nor should it be overlooked that the historical standpoint is essentially bilateral. Not only does it admonish us that the present reality is to be understood in the light of its past, but it encourages us also to view the original reality in the light of its developments. If the man is descended from the ape, this does not merely mean that he has had a humble origin; it means also that he *rose above it.* It means, further, that the ape was more than the humble creature he seemed, seeing that he had it in him to grow into a man.

In short, the Historical Method places at our disposal an enormous mass of relevant *data* on which to form our judgment, instead of merely confronting us with a cross-section of what may be merely a momentary and ephemeral present state. Should we not all prefer the diagnosis of a physician who has known us from childhood and is familiar with our constitution to that of a stranger who has merely taken the actual temperature from which we are suffering?

Lastly, it should be borne in mind that if the real is not static but is in continuous process, only prolonged historical observation will do justice to its nature. Only a historical method will enable us to trace out its past, to understand its present, and to forecast its future. So I repeat, the real is what it is, not by the eternal accident of some immutable reality, but in virtue of what it has been through in a time process. And therefore, in reflecting on man's past, it may be wiser not to adopt the merely historical attitude which values history for its own sake, but to try to extract from it some scientific foresight of human prospects.

DETERMINISM, FREEDOM, AND PERSONALITY

BY TOM H. TUTTLE

In the Cosmos there are the levels of matter, of life, and of mind—to mention only three of the vast number—and each of these is planted in and grows out of the previous level; not that it destroys the reality of that from which it came, but that it is something we take as including the level below, and in itself possessing more significance. It is something new but its newness is not to be depicted in descriptive terms of previous stages. It is a response to something beyond, and in its response to what one may term the Cosmic Urge it gains a new value as well as a new organization.

The laws of the factors that have gone before are its basis, it is largely determined by these; even the ability to respond is determined, but the response is individual. In Nature's law from "base to apex" there is in all stages a repetition of the relation of individual to society which—at the level of mind—is so often the battle ground between Personalism and the worshippers of Society, or an Absolute. At this level the individual is determined by society and the forces of nature, and is the product of their union, but is free in his ability to respond in a given direction. Consequently, the level he attains may enable him—as in the case of such men as the great religious leaders, and others—to reverse the process and secure such responsive reactions in that society which largely determines him as to lead it to a new plane of existence; which may in time be equal or approximate to his own, and then the process begins again. The result shows that neither the individual nor society is prior, that there is no real dichotomy here, but that each in its own way is an unmistakable aspect of the growth of civilization and the evolution of the whole. This fact seems clearly shown if we review the life of any nation or people.

It also sheds light upon the question of Freedom and Determinism. A Universe without law, without real causality, would not give the individual the assurance needed for action. It would be a Universe of fear and trembling. Therefore the self does not determine itself, for one element within a whole can not determine all of the other elements, and hence the whole; parts interact within the self but responsiveness is the act of the whole. He who responds to the Spiritual Level of the Cosmos does not do so as body or mind alone but with his whole being, and in so far as he reserves his response—making it a partial thing—just so far does he fail of that freedom, joy, and real personality that comes more and more completely in whole responses. The self *alone* cannot be free in the sense of some of those who hold the theory of "Self-Realization," for one part of the self does not so completely determine another; it being the product of the multitude of physical, social, and other forces from whence it came; and as the beautiful lotus flower rises from its unlovely confining walls, and the mud and slime of its immediate environment, in response to the sunlight and other levels of influence, so the individual self responds to other levels of existence: for good or ill, and in either case the results of its response go on as factors in the Cosmic Whole.

"Self-Realization," as set forth by many of those philosophers otherwise clear in their thinking and noble in their ideals is not enough. There are three main factors in the problem of freedom: (1) The individual as determined by natural laws and social environment, (2) the individual power of response toward personality, and (3) The Cosmic Urge. And the progress from (1) through (2) to (3) is not a shifting about of the elements in (2), but a whole response to the Highest Level of Reality.

But the point with which we are immediately concerned is that freedom in a determined process is based on the type of response one makes when reacting to the Cosmic Urge. If the response is positive a new freedom seems to be attained which is exemplified in the free and joyous life of the self-sacrificing scientist or religious man. If the response is negative it leaves the second state of him who was irresponsive more determined than the first; for he is determined to self-satisfactions that not only separate him from the Cosmic Urge—which awoke the ability to respond—but he is separated from the joyous social life of those who gain the spirit and joy of freedom in the Cosmic Whole, and, lastly, he becomes more and more determined to the satisfaction of those self-satisfactions, which, growing more and more dull with satiation, fall like dead barnacles into the sea of oblivion, leaving behind nothing but the objectless desires of a manacled self.

The picture that has been drawn is the end of the negative process. The power of response does not cease with the initial responses and the Cosmic Urge never ceases to beat upon the self, even when it is dead in objectless desire, for the Cosmic Urge is the principle of the Whole, from "base to apex." It is revealed in the whole evolutionary process, in the development of the eye within the organism—where again our Universal Law shows itself in that those organisms which respond to the beating of light waves possess sight, and in proportion to their response, while those which see not were unresponsive —in the minded organism, and in spirit, (the soul or self) which loses itself in self centered individuality—as bare negative being—or finds real spiritual personality by losing itself in responsive love, work, and service to that Highest Spiritual Level which works in and through all of the lower levels, and supplies the power and will to be free; for this is just what is revealed to us as the Cosmic Urge. We experience this power within and upon ourselves as that Immanent Principle which reveals to us the reality of our egos as feeling, thought, will, and imagination in one indivisible whole which grow into more and more complete personality as they positively respond to God, the Cosmic Urge, as Infinite Personal Spirit, of which they are Immanent Ideas.

SCIENTIFIC REVOLUTION AND THE NEW DAY

BY THE EDITOR

We have in the course of these lectures looked at Western Culture from the single standpoint of its relation to individualism. This individualism we concluded was the source of what Spengler has called "sense of destiny." No civilization about which we now know much had this consciousness in such a marked degree. It is certain that none had it to a considerable degree and survived, since the principle involved contains a high degree of belligerence. "Manifest destiny" is as sure to break glass in the political china shop as it was capable of arousing ire on the hills of Palestine when confessed by the lad having a coat of many colors. That very principle which has been the source of its progress becomes now the threat of its destruction—that is, unless it is able to overcome all contrasting civilizations and make them its own. Until the time of the World War this was the confident belief of the whole western world. Our previous cocksureness is the measure of the depth of our present despair.

Let us ask then about this sense of destiny, whether it still contains any promise of progress or whether it must be discarded as having fulfilled its greatest possibilities. Are there yet untried elements in it? Has it any contribution to make, any largess to receive from contrasting civilizations? Is any modification, improvement, or adaptation of it possible or giving promise of advantage? Let us further inquire what elements of present civilization are passing and what, if any, are bound to remain. Do the things that remain suggest any solution that may be more than racial, more than ethnic, more even than temporary?

The most distinctive late achievement of Western Culture has been that of modern science, which has put into the hands of man undreamed powers over his environment and an uncontemplated menace to the peace and safety of his fellows. What have been the underlying principles of that scientific progress? Have they reached the climax of their effectiveness? Are they about to decline, or to suffer sea change? Will they bring about by their very power the destruction of civilization, leaving to the descendants of some remote and uncivilized African tribe now roaming the jungle the questionable privilege of emerging from barbarism and in some yet distant century digging up the ruins of London or New York?

And finally, let us inquire what are the enduringly creative elements in the human mind and their chance of survival if a new science and a new religion should arise.

I

The Basis of Past Scientific Concepts

It is natural that we should base any inquiry into the nature of the coming civilization upon that achievement of which we are at the present moment most conscious, most certain, and most proud. In past periods such an inquiry would have been based upon the achievement of law, or of education, or of religion, but today the only commonly understood basis would be science. It is as futile now to raise a voice against science as it was to raise a voice against theology in the fifteenth century. What now goes as scientific goes without saying.

Mention has already been made of the sources of our present scientific concepts in Greek thought. The Greeks lived before there had entered strongly into Western Culture that sense of destiny that arose with Rome and found itself powerfully accentuated as the repressed intensities of Judaism poured themselves over into European culture through the medium of Christianity and the Hebrew scriptures. The Greek world was a static world. Furthermore, the earliest scientific discoveries were mathematical. The earliest progress was that which was made by dividing, weighing, and measuring. The art of computation, the Euclidian geometry, became the foremost scientific occupation.

With the Heracleitan proclamation of change as the very essence of being it was but natural that change itself should be viewed from the geometrical standpoint. This is evident in the arguments of the Eleatics. The paradoxes of Zeno are paradoxical only to a mathematical mind bent on the infinite divisibility of space and bound to see it under no other aspect. The atomism of Democritus, for more than twenty centuries the model of all atomism, was but a concept of quantity. It was but the outward token of an inward scientific credo, "geometry is all." Reality must be made up of measurable bits, and all these accord with the laws of number and of space. Space and number themselves become with Lucretius the *Deus ex machina* which creates and rules the world. Just as the infinite and invisible point emerges into the visible and measurable line by the magic law of infinite multiplication of nothing, so the whole world of objects and even of human achievements grows out of nothing tangible under the reign of mathematics. No wonder such a system held captivating power over the minds of men! Even yet, determined not to destroy mathematics, we cling to the old concept with talk of "emergence."

Then came the chill of stormy winds, the wintry blasts of barbarian invasion, the little flame of Greek culture driven to the Arabian deserts or flickering in uncertainty in the farthermost corner of Europe, the monastery of St. Columba in the Irish Sea. But the revival of letters brought again the sunshine of a brighter springtime, and the Greek thinkers rose to a dominance and authority never possessed in their own age. This dominance, slavish at first and leading into the by-paths of deductive credulity under the reign of formal logic, was yet able to maintain itself through the revolution that found voice in Bacon's *Novum Organum.* However the new science might repudiate deduction as a method, science retained its mathematical basis and outlook.

Science has rested satisfied under this ancient master until the last quarter century, smugly satisfied to take all its observations from a single standpoint. Overwhelmed with the thought that Nature is but God or Matter, or something else, geometrizing, it has been content to assume that Nature can do nothing *but* geometrize. Now it appears that as in a former scientific revolution we passed from Ptolemaic to Copernican astronomy, so by a revolution vastly more far-reaching in consequences we pass from the Euclidian to a non-Euclidean universe.

II

The Revolution in Scientific Concepts

Like the Bull Market on Change, it was too bright, too beautiful, to last—although there are some belated wights both on the market and in science who refuse to believe it. The reaction, long delayed, was sure to come. The limit of geometrizing for the human mind may not yet be reached, but it has passed far out beyond the ken of most of us and must be pretty much devoid of comprehension even to the minds that still work the equations. The physical operation of equation and symbol can be gotten through with, but what boots it when the things they stand for are so infinitesimally small or great that they no longer possess meaning for the finite mind?

This result is the grand disillusionment into which science is already entering. The effect upon the man of the street is hard to visualize, for he still lives expecting, with imbecile smile, the "birdie" will yet pop out of the scientific box, and his shekels, and whatever he feels of a soul, will be saved by a single scientific operation, without character, without goodness, without sacrifice, and without pain to his egotism.

Such a disillusionment with a single scientific standpoint was, I have said, inevitable, for in spite of the fact that God or Nature geometrizes, he does more than geometrize. There is something more than quantity in the world; there is also quality, and quality can only be viewed as reality, and is not essentially a phase of quantity as we have long been scientifically believing. And not only is there quality but there is also life and spirit, and these, the most important facts for man, are not commensurable in terms either of time or space.

Neither Heracleitanism nor Atomism, nor the Greek minds that gave them furtherance, were aware of the biological problem. Anaxagoras and Protagoras, Socrates and Plato had inklings of it, but were widely separated from its scientific consideration. The reason Greek science was able to confine its scientific investigation within geometric forms was because it dealt alone with the static, the immobile, with a matter which was inert or moved upon. The Greek methodology could not remain after the static problems of nature had been exhausted.

The mathematician scientists could, if it were worth the trouble, elect to view your latest journey from the single standpoint of space-time relations. It would form a perfectly good doctoral thesis, and could by a clever brain be spun out to the dimensions of Russell and Whitehead's Principia Mathematica, without exhaustion, except that suffered by the readers and spectators. A parabola of your footsteps could be plotted as they tended toward your present position, and at each step an infinitude of changing cosmic, sidereal, galactic relations could be viewed as concomitant with or possibly influencing your steps creating a baseless fabric of dream as terrifying and as convincing as any of ancient astrology.

Undoubtedly there are relations between your footsteps and the stars, if you want to believe them such. These measurements could, no doubt, be erected into some sort of causal mathematical meaning by one clever enough to juggle the figures, but purely fanciful. No geometrical method can construe a world of life and growth. It can of course measure the special movements it sees and draw therefrom certain conjectures. It can no more get at the efficient cause of phenomena than could the Königsberg neighbors of Kant deduce from the regularity of his daily constitutional the nature of his philosophy.

It is too early yet to say that the mathematical aspect of the universe has been exploded. Within limits of its usefulness it will remain true to the extent of its standpoint. But it has limits, and we ought to know there are many things in heaven and earth that are not dreamt of in mathematical science. This fact has broken in upon the most advanced scientists through the very failure of their mathematics to account for the universe in its chosen field of space and time.

Thus we move away from the old mathematical dogmatism and formalism to the newer notions of relativity, of quanta or discontinuous forces and gravitational attraction. This means that in the very essence of matter itself the old mathematical certainties are gone as completely as the dogma of infallibility in theology. In other words we are witnessing a scientific and intellectual revolution more complete than that of the Copernican astronomy, and no mind is sufficiently far-reaching in its grasp to predict the outcome. The very definition of matter has been changed over night to an idealistic one. The old world of mechanism and materialism is gone save for those belated souls who refuse to believe what their eyes see and their ears hear—lest they be convinced of the error of their ways and be scientifically converted. The trouble is, no one has any clear idea to what it is necessary to be converted, and men hate suspense. Limbo was the least desirable part of Dante's Hell.

III

The New Concepts and the New Basis for Civilization

If the old heaven and the old earth are about to pass away, the question of the character of the new heaven and the new earth that are coming becomes a matter of prime importance. There is great temptation at this point to indulge vain dreams and fancies, and we shall not take on the role of seer or prophet. We shall confine ourselves to a consideration of the probable change in climate concerning certain great, determining ideas that have lived for fifty years at least in an atmosphere of chill.

So vast a revolution in the intellectual life of the world can not but eventuate in widely changed points of view in fields outside of science as well as within. Such a change took place with the transition from Ptolemaic to Copernican astronomy.

Bruno became fairly intoxicated with the sense of infinite spaces to which the new view invited him. Henceforth it became quite the thing to contrast the infinite vastnesses of space with the infinitesimals of the human mind and personality. The outcome has been a steadily growing contempt for man and mind.

This was no strange result for a world that had broken loose at last from the earth-centered, the geo-centric, concept of the universe. But there are scientific suggestions of a return in the recent claim hesitatingly set forth that this planet is the only one in the whole system fitted to sustain life. This means no more nor less than the uniqueness of the earth and the uniqueness of man. If this position can be maintained, the discarded supremacy of mind in the universe comes bounding into the foreground again. Intelligence once more is quoted at a premium.

In Bergson's *Mind Energy*[1] occurs a passage worth quoting at this point:

> Modern science is the offspring of mathematics, begotten on the day when algebra had acquired sufficient force and pliability to be able to enfold reality, to draw it into the net of its calculations. First appeared astronomy and mechanics, under the mathematical form which the moderns have given them. Then was developed physics—a physics equally mathematical. Physics gave rise to chemistry, this also being founded on measurements, on comparisons of weights and volumes. After chemistry came biology, which, indeed, is still without mathematical form and seems far from acquiring it, but which seeks none the less, by means of physiology, to bring down the laws of life to those of chemistry and physics—indirectly, then, to those of mechanics. So that, in short, our science always tends to mathematics as to an ideal. It seems essential to it to measure, and wherever calculation is not yet applicable, wherever it must limit itself to description or analysis, it manages to set before itself only the side which later may become amenable to measurement.

And again:

> I have sometimes asked myself what would have happened if modern science, instead of setting out from mathematics to turn its direction towards mechanics, physics, and chemistry, instead of bringing all its forces to converge on the study of matter, had

---

[1] H. Bergson, *Mind-Energy*, translated by H. Wildon Carr. Macmillan, 1920, p. 87.

> begun by the consideration of mind—if Kepler, Galileo and Newton, for example, had been psychologists. They would have produced a psychology of which today we can form no idea. . . . The most general laws of mental activity once discovered (as, in fact, the fundamental principles of mechanics were discovered), science would have passed from pure mind to life: biology would have been constituted, but a vitalist biology, quite different from ours, which would have sought, behind the sensible forms of living beings, the inward, invisible force of which the sensible forms are the manifestations.[2]

It is not too much to hope that the scientific revolution, since it has disclosed the ultimate inadequacy of mathematical formulae, in the explanation of the simplest realities of force and energy, may open the way and give mental tolerance to some other methodology than that of mathematics, which shall be able to consider biological fact—life—growth—the mental and spiritual—that realm of values to which, try to disguise it how we may from our Fundamentalist friends, the old methodology has been hostile. One of the most profoundly stirring moments of my life occurred when I read from the failing pen of Dr. Carr the message for a new *Philosophiae Principia*. Is there not some one within the sound of my voice that shall some day proclaim the new principle upon which we can build a science that shall include life, mind, and values?

The scientific revolution with its doctrine of *quanta,* if that doctrine shall ultimately prevail, lays down also a new basis for belief in contingency. The *quantum* theory is more startling in a world of science than the belief in miracles, and it is sure to be stoutly contested, as it goes directly to the heart of the whole mathematical method. It strikes hardest at our egoistic claim to have mastered the control of nature. It is the admission that there are events in nature that are unpredictable; that they spring from a cause that is not mechanical; that there is a realm where our so-called laws do not hold. This is a breath-taking proposition to the gentlemen who have been picturing even human activities as mere *automata* created by hereditary and environmental influences, without freedom on the part of the individual. I foresee then in the new science a place for contingency and freedom, revolutionary as the idea may seem to us who still live under the spell of the mechanistic.

---

[2] *Ibid.,* 98-99.

Likewise, relativity, with its doctrine not only of the fourth dimensionality but of the many dimensionality of space, has cut us adrift from the old conceptions of an absolute and independent space and time, but it has likewise opened the door for relativity in a thousand ways. At first glance this seems as fatal to religion and morals as it does to science, but only if we refuse to follow on to the new world to which we are invited. Relativity sets the individual judgment out in a new significance. The dictum of Protagoras looks less absurd and man is seen in a new and better light as "the measure of all things." It is only the superficial mind of the present day that will argue therefrom the Sophistic conclusion of inability to arrive at truth. It will be seen, however, as a new imperative upon the right of private judgment, and it should bring a new freedom to man.

Moreover, as the mathematical method has driven the atomic theory into the deep sea of idealism and metaphysics, I foresee a new reverence for that active force behind the universe upon which all objectivity, all life, all thought is momentarily dependent for its existence. This concept is broadening in its influence and creates a place in the Cosmic scheme which can be logically filled only by the assumption of a Creative Intelligence as the ground of all being and reality.

Thus there sails into the ken of the prophet a new world of scientific thought which, while yielding nothing to superstition and hearsay, shall purge itself of its own materialistic superstition and shall free itself from the false position of hostility to the highest human values.

IV

The Advance from Individualism to Personalism

But such a result calls for new factors which have not been apparent in the individualism of past culture. What prospect is there of anything different from that which has ever been? This is the point at which I must part company with Spengler. He views history as a repetition of cycles. History is but an Ixion's wheel rolling ever toilsomely, only to repeat the ceaseless tragedy. His cycle theory of history is cleverly sustained, but it is forced and mechanical. Moreover, it is the source of his pessimism, for a history forever repeating itself is as mechanistic as the mechanistic science against which he contends. An Ixion type of civilization or belief in it can end only in complete skepticism and utter despair. Any attempt to grasp a meaning for human life becomes illogical, incomprehensible, since there can be no ultimate meaning and no real progress. It is only incidentally and unperceived by himself that Spengler here and there furnishes the clew of solution. One such is the phrase: "The *act* of thought is history." Let us follow the by-path.

But let us first ask two questions: What in our present condition is unlike conditions which were present in the collapse of other civilizations; and, next, what have we, if anything, that will surely survive all cultural change?

The first of these questions brings into view the fact of new and rapid means of world transportation that have never before obtained. Every part of the world is more accessible to every other part than used to be the case within individual empires. This is not alone a question of proximity but also of intricate inter-relations of trade, commerce, interdependence, and travel.

For the first time in history the whole world is in possession of a universal literature or means to literature. Education is all but universal. The press percolates to all but the remotest places and peoples. Ideas and speech ride on the wings of the wind but with the speed of light.

With scarcely an exception there is in all lands the pretense, at least, the promise and the frame-work of democracy, a well-nigh universal suffrage—a condition never before attained with such universality.

There is also, as a new element in the situation, a recognized machinery set up for international cooperation. Perhaps we think that World-Court, League of Nations, International Postal Union, International Learned Societies, and International Chambers of Commerce are nothing, but they have never been in the possession of any other culture.

There are the beginnings, however crude, of an international morality, or ethics. It takes some hardihood to call attention to this at the present moment. But the world is widely shocked now at national bad faith, and breaking of promises, and this is something.

Then there is the element suggested by Dr. Everett in a recent address, a growing sense of responsibility for the less fortunate, evidenced in the Community Chest movement of America, the dole of England, the social aims of the Soviet Republics, to mention only a few.

These are great gains, and point in the direction of hope. Over against these must be put the possibility of world-wide destruction through the use of submarine and airplane, poison gas and disease germs, with a world-wide education in how to apply them. Obviously our only defense against these menaces can be nothing other than universally achieved morality, sense of integrity, and brotherhood.

The other question which I proposed was: What have we, if anything, which will survive all cultural change? Here we must get down to very simple terms, for it must be something which is greater than Ethnic Creed, or race prejudice, or national patriotism, or of institutional survival. It can be nothing less than the more intimate cares of the individual himself—a common humanity. An ancient prophet expressed its common basis in the words, "Have we not all one Father, and hath not one God created us?" In the last analysis it will appear that there is nothing in the world so eternal as the spirit of man.

It may be that the person himself furnishes the key to the civilization which must come if humanity is not to be universally destroyed. A mathematical science has long led us to seek in the microcosmic atom the mirror of the macrocosm. We may need to find the microcosmic mirror of the universe in the person—the self. There must be a center from which universal understanding is possible. That center is the person. If I can be true to myself I shall be true to nature, to my neighbor, to society, and to God. Thus we make the transition from a culture of individualism—based on atomic mathematics and fitted to deal only with the dead, the static—to a culture of Personalism, with the person as the unit and fitted to deal with the biological—an order of growth, of life, of mind, and of spirit.

I am quite aware of the astounding and paradoxical character of this claim. I can not hope adequately to defend it here. I offer it only as a suggestion to think about. We must go forward or perish, and to go forward can mean only to go forward to the civilization of the person.

V

The Work of the Creative Imagination

Obviously I should stop now, leaving you with your sense of astonishment or the conviction of my madness, or else I should go farther than time and space allow. I am now going to offer but two morsels of hope or of amelioration, on the basis of a change to personality as the ultimate reality. The first of these has to do with the place in any culture of the creative imagination.

In the life of the person the power to create patterns of conduct, the creative imagination, has been rightfully accorded a dominating place. Once the personality lifts before itself a goal and follows it up with earnest desire, that goal begins to write itself into all the moments, the thoughts, and the measures of life. Thus is constituted that drive which creates genius and the work of genius. All technique works toward an end, and, when sufficiently mastered, places itself at the direct command of the soul or personality as an immediate organ of self-expression.

Something like this lies behind the unusual achievements of this scientific and mechanical age. We say "it is in the air," but in reality it is in the minds, conscious or subconscious, of millions of men whose main interest is along this line; for, as genius arises in the individual mind to perform what to other times would be miracles, so must any great achievement of an age, or world society, spring from the creative imaginings of many minds. No great historic event ever takes place without this. It is, indeed, true that history is an act of thought. No great leader ever yet arose in society who was not visual minded. The visualization of desirable ends toward which social accomplishments may move must precede any great social renewal.

One thing the present world-weariness has done for us—it has made any dream except a world-wide one incapable of firing the imagination. Alexander, Napoleon, and Kaiser Wilhelm are steadily sinking pigmies of the world imagination. So far we have been little better than playing with the problem, but there are indications that spring is in the air. World Court, Leagues of Nations, Disarmament Conference: these are little bits of creative ideas that are only awaiting the flame of great visual leadership to open a new era in world history. The old civilization must pass, because it is not primarily concerned with life, mind, and values without which we break in despair. Individualism must yield to personalities.

VI

The Significance of Religion

One further question we need to ask: What are the springs that move deeply the creative imagination, and move in such a way as to communicate themselves to great masses of men in spite of social condition, education, or race? We shall find the answer, Yankee-wise, by asking another. What, the world around, has proved the most potent element in quickening the imagination? I believe the only answer to be religion. This may seem incredible, since in our day religion seems to be having a hard time of it. But religion thrives on catastrophe. Thus alone does it put on beautiful garments.

Religion does not really begin to be, in the truest sense, until it witnesses the destruction of its fondest hopes. When it becomes emotional in the highest sense, it becomes overpowering.

Religion provides at highest effectiveness and at the same time with the widest diffusion the emotional element for mass movements. Vision of destiny, dreams of a better social order, are communicable only through religion and art, the deep springs of emotion. Here is access to the most impelling forces.

Spengler recognizes the spiritual nature of the problem. He declares it is only the spiritual that can lead to that spirit of individual sacrifice wherein the person will forget himself even to death for a common good, lay himself voluntarily upon the altar of sacrifice for a communal future—in other words, pass from individualism to personalism. Blindly enough, he sees this spiritual element present only in war. His eyes have been closed to that nobler army of martyrs who have carried a spiritual evangel to the far places of the earth, enduring all toils, tortures, and death with a happy heart, to carry religion, education, health to an unhappy world.

One of these I knew who inoculated himself with germs of what had been supposed incurable disease that he might bring them to Johns Hopkins Hospital for isolation and study and so to remove one of the most dreaded scourges of China. I recall the sacrifices by which Yellow Fever was conquered. These are instances of spiritual exaltation in which the individual serves the common weal, which, for the advance of the world, are vaster than any that could come through war.

Only that which involves religious passion—I mean this in no narrow or institutional sense, but a passsion for righteousness, for the social order, based on reverence and a sense of the cosmic order, can bring the new day. Here is something that might unite the great masses of men irrespective of race, nationality, domicile, ignorance, or culture. It might at any moment be visualized for the world by great leadership. It has within it all that power which resides in personality alone.

In the new day we shall re-orient our thinking to the person as the center, for here is the ultimate meaning of reality, the source of power. You may catch some glimpses of it down the field of history. One sees light of it on the face of the Buddha, who discovers that the true goal of our striving is love. It has fallen from the faces of a noble army of martyrs who, through dungeon, fire, and sword proclaimed the unconquerable power of the human spirit. It was in the Greek longing for imperturbability. It shines from the face of the "Virgin of Chartres." It is everywhere in all great art, architecture, and religion—the insubmersible spirit of man himself. It is the voice in Joyce Kilmer's *Trees*. It is the undertone of Dante's *Divine Comedy*. It lingers in the strains of Handel's *Largo* and of the *Pilgrim Chorus*. It is the unvoiced desire of the Russian peasants coming up through generations of sorrow and repression. It was in the patience of Abraham Lincoln. It is in the indomitable courage of Gandhi. It shone forth from the Cross of Calvary.

Against it all the despotisms, tyrannies, violence, the wrath of the men of war dash futilely as the waves that beat against the rocky headland. Revolution, change, discovery, pain, and sorrow are but the means by which it more surely finds itself. It alone is enduring, it alone towers over the waste of time and change.

CURRENT THOUGHT

A Recent Defence of Contingency

Charles Hartshorne, of the University of Chicago, interestingly combines philosophy of science, philosophy of religion, and "straight" idealist metaphysics in a recent discussion of chance published in the *Journal of Philosophy* for August 4th and 18th ("Contingency and the New Era in Metaphysics"). He finds that nineteenth century science failed to produce any "really distinguished defense of determinism," and concludes therefrom that

> . . . determinism had ceased to function except as a traditional dogma, persisting mainly through inertia and the supposed command of natural science.

Physical science has since realized that its findings of a deterministic character indicate statistical evidence rather than proofs of determinism, and Charles Peirce showed that, while the margin of contingency may be below observed data, regularity is nevertheless irreducible to any probable value. Moreover, the author points out that non-relative causality is by no means indispensable as a working hypothesis, for it transcends observation and thus violates some of the most important standards of science and philosophy.

The problem of time is considered at some length, and the conception of an "eternal now," so dear to many philosophers, is seen to have been one of the most serious burdens upon theology. Professor Hartshorne argues for the limited God so frankly recognized by personalistic thinkers, and feels that God is temporal,

> . . . although he may be everlasting and beginningless. The future for him must as such be real for the very same reason as for us, namely, because it is in itself not wholly definite—so long as it is future.

If philosophy would make the past-present-future relation purely subjective, it is taking the wrong choice in a "crucial" issue namely, "whether it shall explain, or merely denominate illusion, the data from which it starts."

The author regards the predicaments of Spinoza, Leibniz, Hume, Kant, and Bradley as results of lapses into determinism. He concludes on a striking note, which is that man's original pan-psychistic animism may well turn out to be the final deliverance of science and philosophy. The viewpoint of formal logic is seen as the fundamental antithesis to man's first attitudes. In its clear-cut pronouncements it has fascinated the human intellect for centuries, but when rigorously pursued into metaphysical conclusions it has always ended by producing world schemes that were forbidding spiritually. We should gladly, thinks Dr. Hartshorne, accept the reality of time, of contingency, and of "a cosmic society of more or less man-like creatures." C. F.

NOTES AND DISCUSSIONS

Forest Lupin

Vacation days have recently been cast beside a little river. Its cadences fall in the lighter harmonies and blend with the whisperings of the black pines which line its banks. Other streams have broader pools and wider vistas, and their majestic sweep knows little of the turbulence that now and again frets my little stream. So clear and so shallow is the water that I crawl my way along to its edge prone upon my face. To the curious deer upon the other bank I must seem some giant measuring worm as I creep down to the bank for a quiet cast into the pool below. Leviathan is there though the multitude deride and believe not, for I caught the flash of his rainbow side on my walk of yesterday. Though I have tried for several days in vain to lure him, I have the feeling that the day and hour have arrived. It is not prophetic, since that is always the feeling with which the hopeful fisherman approaches any pool. Sure enough, I have him, and he is securely hooked, his moments are already numbered. Now having received the *coup de grace* he reposes with some of his lesser brethren within the cool and mossy shadows of my creel while I lie back upon the bank and fall to reverie. My more ambitious friends have left me for the gleaming lakes and the wilder and deeper waters of more propitious streams, despising my inch-worm tactics and with little faith in my little river—and yet none of them will come home with fuller creel nor with better fish than my leviathan. And as for streams, none are more beautiful than this, though many are grander. And how would the mighty rivers below get on but for the despised contribution of a thousand such as this? Without the brooks its depths would sink into noisome shallowness, and its proudest boast be stilled, for it has no strength save that which is contributed by the tiny springs of the far off hills. Sometimes, when blasting heats lie on peak and canyon and would turn the valleys below to desert and desolation, my little stream sinks from sight, and yet with my ear to the rocks I can hear the gurgle of its happy voice and catch the coolness that rises from its breath while with an unfailing faithfulness it feeds the springs of the valley below.

Our civilization puts its emphasis upon grandeur and thinks too little upon faithfulness. For every one who lifts his head above the common ruck in the mighty city a thousand lives in quiet country places must have made their contribution. We think our civilization depends upon our leaders, but were the tale of history correctly read we should see that it rather depends on the quiet and unassuming folk whose faithful lives feed all the springs of its noblest endeavor.

In my reverie I reach out for a lupin with which to grace my creel before the inevitable inspection of Brown Bonnet, and rediscover the rare beauty and elegance of this forest flower. It is not like that which flames the hillside under more happy skies and soil, but it has a delicacy that is wanting in its more robust sister of the hillside.

Plucking a small portion I bury leviathan in the purple tracery of the forest lupin. Purple for the king of the pool. R. T. F.

Statistics and Belief

A current statistical study purports to show definite ratios between religious belief as expressed in dogma and interest in science as shown by eminent achievement. Orthodoxy and science the authors maintain are not compatible. Statistical averages have been made to show the proportion of scientists who are members of the orthodox churches and those who are not, with proportional representation varying from high to low according to the degree of orthodoxy present. But the method of proof for the writers' conclusion is itself unscientific. The relation between orthodoxy and scientific endeavor constitutes a problem of values which is to be determined only through logical and historical evidence. There are two real reasons why it is impossible to draw any reliable conclusion about church preferences of scientists in general from available statistics, though ultimately these two reasons are the same.

First, if the statistician is to work on sufficient data he must classify not only the outstanding scientists but also he must take account of all the thousands of scientifically tempered individuals who never achieve eminence or even casual mention yet whose contributions to science are of incalculable value. This is, to be sure, an impossible task; but it is also an unnecessary one since proof on a problem of this sort no more depends on enumeration of all the instances than the proof that two added to two makes four is dependent on the consideration of all the cases where this operation occurs. It has been found to be a difficult task to determine the church preferences of even the eminent men of science. There are around twelve hundred leading scientists listed in "Who's Who in America," but only one-fourth of this number give information regarding church affiliation. The statistical study referred to takes account merely of the three hundred and three scientists who recorded their church preferences. Now one-fourth of a group obviously is not enough on which to base statistical averages for that group. The men who prepared the survey in question are professors in American universities. Is it to be supposed that in their classroom procedure they rate an entire class on the basis of work done by only twenty-five per cent. of the members? The group under consideration furthermore, even if the remaining three-fourths were successfully tracked to their theological lairs, represents only a fraction of the scientifically minded population. And if information about the heroes can scarcely be obtained where shall that concerning the unsung day laborers be found?

But the second reason for complaint about statistical ratios of this sort is that it is impossible to apply successfully the enumerative method to a problem of individuality. Wherever such application is made the logic is unsound and the conclusions are, to say the least, extraordinary. As an illustration of how misleading such statistics may be we cite one conclusion from one of the statistical tables purporting to show the relation between religious belief and scientific interest. The schedule of ratios in this particular survey is such that the Swedenborgians are given second place among those who rank high in science. With one scientist alone this mystical and little-known sect exceeds its quota just 16.500 times!

Looking for a moment at scientists of the past we cannot but observe that extraordinary achievement has been possible in the face of a rigorous orthodoxy, more rigorous indeed than we can even imagine. Consider the case of Roger Bacon, the true founder of science as we now know it, who tried as well as taught the inductive method more than three centuries before the arrival of Sir Francis on the scientific scene. Denounced by his contemporaries as a delver in magic, both his science and his life would have been in danger if Roger Bacon had not been working under the personal protection of Guido Fulcodi, the Papal Legate, and afterward Pope Clement IV, the friend and counselor of England's first real scientist. Paracelsus against the unrelenting persecution he encountered in his labors for science was encouraged and aided by the Archbishop of Salzburg. In France there was Descartes whose education by the Jesuits of La Flèche so far from encasing his mind in a strait-jacket kindled in it an irresistible passion for original thinking. Wholly orthodox though Descartes remained he yet challenged belief to its last stronghold, which on its negative side St. Augustine had seen that the scientific sceptic just in his inability to doubt his doubt could not overcome, and which as an incontrovertible fact appeared to Descartes in the *Cogito, ergo sum.* Out of this positive certainty grew both his philosophy and his science. And the impetus given by Descartes to philosophical study was the result not so much of his philosophic as of his more valuable scientific researches which themselves suggested extensive metaphysical problems. We remember also Pascal and many another whose scientific discoveries place unquestionably in the first rank, whose lives have proclaimed the truth of Pascal's own statement that "the heart has its reason that the reason does not know."

It is true of course that not all scientific endeavor was fostered by Popes, Archbishops, and Jesuit or Jansenist teachers. Much in fact was carried on in direct opposition to various factions. Galileo for instance is said to have recanted before the Inquisition with the words on his anguished lips "And still it moves!" But does not this incident show that considerable leeway may be left to the power of truth itself in spite of any degree of rigidity of belief? Disparateness between the letter and the spirit is a long-recognized and broadly applicable spiritual truth. It appears over and over again in the history of religion and philosophy. There was Spinoza, the favorite of the synagogue in his youth, but in manhood the excommunicate of the Amsterdam community of Portuguese Jews for his "evil courses," e.g., the heterodoxy of an intellectual love of God. And there was Bruno whose fires "not all the snows of the Caucasus could quench," who did not once recant. But though the spirit may break at will through the letter of the creed, an ordered and definite expression of belief is also truth's inevitable expression. And the roll of great scientists who have worked within the psychic protection and inspiration of systematized belief includes such pioneers as La Place, Pasteur, Marconi, Lord Kelvin, Isaac Newton, and many more of equally high rank. But what is also of equal importance in these days of mass education is the ever increasing army of average scientists whose effectiveness is still incommensurable with their actual numbers. To be great, scientists like poets must have great audiences too. M. Whitcomb Hess.

The Philosophy Forum

"The Messages of Modern Philosophy," will be the general topic of the third annual Philosophy Forum, to be held weekly throughout the coming academic year at the University of Southern California. Discussions will be carried on regarding realism, naturalism, idealism, personalism, and intuitionalism. A complete program for the first semester appears on the back page of this issue of *The Personalist.*

Hartmann Prizes

Under date of June, 1932, the following announcement has been received:

Two prizes of £50.0.0 each have been offered by a member of the British Institute of Philosophy for the best Essays on Nicolai Hartmann's ETHICS (English Tr. published by George Allen & Unwin Ltd., London) under the following conditions.

1. One prize to be open to men and women of British birth, wherever resident, under the age of 28; and one to men and women of American birth, wherever resident, under the age of 28.

2. The Essays shall be of not less than 100 typewritten quarto pages.

3. They must be sent in before January 1st, 1934, addressed to the Director of Studies, The British Institute of Philosophy, University Hall, 14 Gordon Square, London, W.C.1, with addressed stamped envelope enclosed for their return to the writers.

4. The prizes shall only be assigned on condition of the attainment of a certain standard by the selected Essays.

5. The selection shall be made by the Academic Committee of the British Institute of Philosophy.

J. H. Muirhead
Chairman of
The British Institute of
Philosophy.

New Psychological Quarterly

The Personalist is pleased to pass on the following information received from the Duke University Press:

Duke University of Durham, N. C., announces a new psychological quarterly to be known as Character and Personality. Publication will begin in September 1932, and continue thereafter in the months of December, March, June and September. A British edition will be issued simultaneously in London, and a German edition in Berlin. Annual subscription price is $2.00. The editor will be Robert Saudek (London) and among members of the editorial board, William McDougall, Alfred Adler, Pierre Janet, C. G. Jung, Johannes Lange.

Along the Bookshelf

Essays in Systematic Philosophy

SCEPTICISM AND CONSTRUCTION: Bradley's Sceptical Principle as the Basis of Constructive Philosophy, by CHARLES A. CAMPBELL. The Macmillan Company, New York. 1931. Pp. xxiv, 322. $4.50.

ESSAYS ON THE LOGIC OF BEING, by FRANCIS S. HASEROT. The Macmillan Company, New York. 1932. Pp. xiii, 641. $4.00.

IDEAS: GENERAL INTRODUCTION TO PURE PHENOMENOLOGY, by EDMUND HUSSERL. Translated by W. R. BOYCE GIBSON. The Macmillan Company, New York. 1931. Pp. 465. $5.00.

THE EMERGENCE OF LIFE: Being a Treatise on Mathematical Philosophy and Symbolic Logic by which a New Theory of Space and Time is Evolved, by JOHN BUTLER BURKE. Oxford University Press, Oxford. 1931. Pp. ix, 396. $4.00.

As is revealed in its subtitle, *Scepticism and Construction* is in some ways an amazing book. It would seem to be the work of an acute mind, building card-houses upon too narrow, insecure, and uncriticized foundations, and naively unable to realize their evident collapse. His whole argument is a sustained paradox; but it is no slight merit nowadays for a book to have a sustained argument. And withal there is about it also the ingenuousness of youth and a clearness and candor which are very refreshing. Mr. Campbell plays the game of metaphysics honestly and without secreting a supply of extra aces up his sleeve; and those who have not so much appetite for it as he has can safely trust his Preface for an honest summary of his argument.

In his own words, "metaphysical scepticism is the converging point" of three distinct lines of thought, epistemological, ethical, and religious. Starting from the traditional assumptions of absolute idealism, Mr. Campbell in each case finds that they lead to a "non-intelligible Reality." But from this he infers, not that he has been building on unsound foundations and should start his inquiry afresh, but that the Absolute is "supra-rational," and all the better for that! This conclusion, so far as I can see, is a sheer, undiluted, value-judgment, and no sort of argument is offered for it. Mr. Campbell argues indeed that his scepticism is implicit in F. H. Bradley's metaphysics; and to this one may cordially agree. Bradley has made clear the scepticism which lurks in *all* absolutism, simply because no finite mind can justly claim to speak for the absolute mind—even to the extent of asserting its existence. But Mr. Campbell hardly does justice to the complexity of Bradley's mind. For a large part of his life he was simultaneously an absolutist, a sceptic, and a pragmatist. And though never willing to drop any of the three entirely, he had traced a sort of logical connexion between them. His absolute idealism was basic; but it led to scepticism. Hence, when he tired of it, or when he realized that he could not live by it, he had recourse to pragmatism. But this he would never admit to be more than a "practical makeshift." He would never allow himself to make it the basis for a theory of life and truth, though in his *Essays on Truth and Reality* he finally makes extensive concessions to it, and comes very near to a complete "revoke." Mr. Campbell's failure to realize this complication in Bradley is probably due to his almost exclusive reliance on *Appearance and Reality;* and unfortunately he nowhere meets, or even mentions, the central incoherence of this brilliant work. Like a true formal logican, Bradley had adopted self-contradiction as his final criterion for distinguishing reality from appearance. He then convicted all ordinary realities (except the Absolute) of self-contradiction. But he never considered whether these contradictions were real or only apparent! Thus the antithesis he was trying to overcome by means of his criterion breaks out again within his final criterion itself, and renders it illusory. Had Mr. Campbell read more widely among the critics of Bradleyism (especially H. V. Knox's *Evolution of Truth*), he would doubtless have seen that this difficulty must be met before it is worth while proceeding further with Bradley's philosophy.

In his second section, on Moral Freedom, which occupies more than half the book, Mr. Campbell does much better. He there emancipates himself from the sophistications of absolutism, and declares bluntly that self-determination is not real freedom, and that the reality of alternatives is as essential to moral responsibility as common-sense supposes. He thus fairly knocks the bottom out of absolutist ethics. In the third section an unknowable God is postulated, who will, of course, be objectionable equally to those who refuse to worship any unknowable and to those who take it as signifying merely a breakdown in the argument. To the obvious way out of the difficulty, a "finite God," Mr. Campbell's reply is (p. 291) that on this supposition "it is surely clear that the only ground for the consummate confidence of religion must be that somehow we are assured that (to put the matter bluntly) God is going to *win* in the cosmic struggle." Whence it would seem that Mr. Campbell's religious man is not only too proud to fight but also too prudent—unless he can be assured of victory in advance! Still Mr. Campbell's work everywhere seems promising, and it is fairly safe to predict that if he is as young as he appears to be, he will depart still further from the absolutist orthodoxy in which he has been brought up.

F. C. S. Schiller.

The author of *Essays on the Logic of Being* gives no clue to his identity, but on internal evidence I should judge that he is not a professional philosopher. His style, however, is pleasing—simple, clear and direct. No doubt he finds it necessary to develop a fairly extensive technical vocabulary of his own, but he is considerate enough always to define the terms he uses. His work is best described as a metaphysic in the grand Spinozan manner. It is modelled upon the *Ethics* of Spinoza, who is almost the only philosopher he deigns to mention. Like Spinoza he lays claim to mathematical demonstration, and declares that logic, mathematics, and ontology "constitute a single science" (p. 126). His logic, however, is not mathematical, but of the good old Aristotelian type, assuming "validity," "essences," "accidents," and "universals," and appealing to the principle of contradiction as the ultimate law of being. He begins well, by recognizing the problem of communication, and the importance of language, though not, as the sequel shows, sufficiently. The recognition (p. 26) that "words are instruments and imply a user as well as a content; in fact, the content is only content for that user," and that "logic like grammar is not absolute but relative to the employer of words" (p. 27), raises hopes that he will erect his system on personal meaning and treat the "laws of thought" as what in truth they are, viz. conventions about the use of words. But these hopes are soon disappointed. The system is in fact built up of *a priori* deductions on an inadequately analysed basis. For Mr. Haserot does not distinguish between *contradiction* and *incompatibility*, between contradicting oneself and others. Yet he had begun by seeing that where there is a contradiction which is not merely apparent (that is verbal) no *meaning* is expressed and no *error* has been established; whence it should merely have been inferred that the inquiry which had led to contradiction must be started afresh. On the subject of truth Mr. Haserot essays a novelty; he declares that the correspondence and the coherence theory are one and the same (p. 81). His reason does not seem convincing; he argues that the meaning the asserter of the correspondence expresses is contradictory unless it is referred to a coherent whole (p. 81). But does not this give up the notion that truth is correspondence with fact, and contradict the *apercu* (p. 76) that "wherever the truth-relation is present reality is not taken as a whole"? Mr. Haserot's assumption of universals and essences also gets him into trouble: he overlooks (in the traditional manner) that every "particular" may be taken as a case of *many* universals and that their *selection* has to be provided for, while in scientific practice the "essence" of a thing is nothing fixed and final but whatever aspect of it happens to be important for the inquiry at hand.

So in the end Mr. Haserot forms no exception to the rule that *a priori* metaphysics are always based on the implications of verbal meanings, which may be challenged, and lose their cogency so soon as it is admitted that they may be changed, although his initial perception that meaning may be merely verbal should have staved off this *débâcle.* Nevertheless the critical student of philosophies, when he compares Mr. Haserot's with F. H. Bradley's, will doubtless be amused to observe how widely divergent may be two metaphysics based on an uncritical use of the same principle of contradiction, while the *connoisseurs* who collect metaphysics should be interested in one which is quite uncontaminated with Kantian epistemology, and mentions God not at all and Hegel only once! F. C. S. S.

Professor Gibson, of the University of Melbourne has rendered an invaluable service to English realers by translating Husserl's work *Ideen zu einer reinen Phänomenologie und Phänomenologischen Philosophie*—, which was first published in 1913. The work has already gone through three German editions, and in the last edition (1928) bears the title *General Introduction to Pure Phenomenology*, which has been adopted by the translator as a subtitle for the English version.

In the preface to the English edition the author tells us that this is the first book in a series of three works on phenomenology which he hopes to complete. The present volume deals with the general theory and method of phenomenology; the second is to inquire into problems, the solution of which is a pre-condition for understanding the relation between phenomenology and the sciences both physical and mental; the third will deal with phenomenology as the precondition of all metaphysics and other philosophy "which would aspire to be a science."

The historical antecedents of phenomenology are coextensive with the whole history of philosophy and psychology. On the philosophic side Platonic "realism," Aristotelian "essence," Cartesian "cogito," Leibnizian "activity," and Kantian "transcendentalism," are all an inherent part of the system. In fact Husserl admits that he has tried to carry out the work of several of these where they left off. On its psychological side phenomenology has historical relations with Aristotle and the "act" psychology of the Austrian school, particularly that of Brentano. While acknowledging his debt to Brentano who converted the scholastic concept of "Intentionality" into a descriptive root-concept of psychology, without which phenomenology could not have come into being at all, Husserl holds that Brentano himself was a stranger to phenomenology and remained on the naturalistic level.

The difficulties of the language even in the original, are admitted by the author, but when it comes to the use of the phenomenological method as a science of pure consciousness the difficulties are repeatedly insisted upon. So often are the difficulties rehearsed that one forms the impression, which is not entirely dispelled by the reading, that phenomenology is a forbidding and sacrosanct realm of the occult, demanding of those who would seek initiation into its mysteries, no less than complete conversion from their old intellectual habits, and wholehearted dedication to, and persistence in, the new phenomenological philosophical way of life. Husserl says,

> What makes the appropriation of the essential nature of phe-

> nomenology, the understanding of the peculiar meaning of its form of inquiry, and its relation to all other sciences (to psychology in particular) so extraordinarily difficult, is that in addition to all other adjustments a new way of looking at things is necessary, one that contrasts at every point with the natural attitude of experience and thought. To move freely along this new way without ever reverting to the old viewpoints, to learn to see what stands before our eyes, to distinguish, to describe, calls, moreover, for exacting and laborious studies (p. 43).

The student will better understand Husserl's present viewpoint if the development of his thought can be viewed historically. Husserl studied under Brentano while he was professor of Philosophy at Vienna and later under Stumpf at Halle. In his first work, *The Philosophy of Arithmetic*, published in 1891, he adopted the viewpoint which he later called "Psychologism," and sought to found logic upon psychology. In his next work, *Logical Studies*, published in 1900, he abandoned this attempt because convinced that the logical unity of the content of thought cannot be explained by psychological connections. In this work he sought to show that the logical sphere is that of the "Ideal" and is not reducible to the "non-ideal." The Phenomenology of *Logical Studies* is confined to the description of experiences in which objects are presented. In the early chapters of the present volume the viewpoint of the *Logical Studies* is recalled and the distinction between "fact" and "essence" elaborated. Phenomenology does not deal with facts but with essences. Its phenomena are objects presented intuitively. It seeks to discover a radical beginning of a philosophy which, to repeat the Kantian phrase, "will be able to present itself as a science."

The phenomenological method consists of an activity known as "reduction" or "epoche," which is similar to, yet not identical with, Descartes' method of doubt. Our first outlook on life is that of the natural standpoint. Since this standpoint can give us only facts, we perform the "phenomenological reduction," we inhibit every ordinary objective position and do not partake of any judgment concerning the objective world. We set it, as it were, "out of action," we "disconnect" it, "bracket" it. That which remains is the phenomenon of actual internal experience. A further reduction may be performed called "eidetic reduction," on the eidetic sciences such as logic, algebra, theory of numbers, etc. This is done in order to convince ourselves as phenomenologists of the legitimacy of the standards we wish to follow, viz., "To claim nothing that we cannot make essentially transparent to ourselves by reference to consciousness and on purely immanental lines." We are thus led to pure "essence," and phenomenology is the science of this essential Being. When this reduction has been completed there then must take place expert observation and description.

Another key word equally potent is that of "intentionality." Intentionality is the unique peculiarity of experience "to be the consciousness *of* something." Every intentional experience has two parts, the "noetic" or the experiencing, and the "noematic" or that which is experienced as such.

Husserl is not excelled even by Whitehead in his skill in creating a new philosophical vocabulary. In addition to the words mentioned the student will need to become familiar with his use of the words "irreal," "doxic," "protodoxic," "thetic," "polythetic," "doxothetic," "dator," and "hyletic."

Phenomenology may be characterized epistemologically as a rationalistic-absolutistic-transcendental-intellectualistic-super-idealism. What it is metaphysically may be judged only when the final book which has been promised has been written. While the anthor is critical of Idealism as he is of Realism, he allows the name "transcendental-phenomological-Idealism" to stand as characterizing his view providing the consequences are fearlessly followed up. He remarks,

> That now as ever I hold every form of current philosophical realism to be in principle absurd, as no less every idealism to which in its own arguments that realism stands contrasted, and which in fact it refutes.

The student will be somewhat fortified for the exacting demands of the text if he is familiar with the history of psychology in Europe from Wundt to Külpe, especially "act" psychology. Three helpful articles have appeared in the English which will be of assistance, viz., "The problem of Real and Ideal in the Phenomenology of Husserl," *Mind* Vol. 34, 1925; an article in the *Encyclopedia Britannica,* "Phenomenology," by Husserl, translated by Professor Gibson; and a study by Marvin Farber entitled *Phenomenology as a method and as Philosophical Discipline,* University of Buffalo studies, Vol. VI, June, 1928.

Professor Gibson has done an unusually fine piece of work in translating such difficult subject matter into intelligible English. The text is remarkably perfect with only minor errors, mostly typographical. It is to be hoped that he will undertake the translation of the promised works of this author as soon as they appear.

HERBERT L. SEARLES.

As the very title hints, Mr. Burke's work is difficult to read, and still more difficult to review. For it is such a heterogeneous jumble, and the jumble of its contents would appear to be a faithful reflection of its author's mind. He seems to be one of those polymaths (manufactured in this case by the old curriculum of Trinity College, Dublin) on whom Heraclitus delivered the final verdict for all time, in his comments on Pythagoras. At any rate all is fish that comes into Mr. Burke's net. Physics, metaphysics, mathematics, formal and symbolic logic, theology, chemistry, biology, abiogenesis, history of philosophy, and even the psychology of the Indian rope-trick and the mechanism of telekinesis, all figure in his pages, and disfigure most of them with their jargons, symbols, and formulas; but as the author seems devoid of lucidity and of the capacity of revealing the connexions which (no doubt) exist between these topics in his own mind and communicating them to others, and usually just dumps them down dogmatically without proof, his readers get little help in finding their way about the miscellaneous contents of the work, and are driven to regard the whole thing as just a sort of intellectual Witches' Sabbath. His first chapter, on Scientific Method, shows that he is innocent of the distinction between method and doctrine; after that his argument skips about and passes gaily from mathematics to physics, and from logic to biology, regardless of all "levels." The style is heavy, without being weighty; it is not unfairly illustrated by the following dictum about the application of the ontological argument to the immortality and freedom of the Ego (p. 149): "Kant endeavored to refute it in both cases as previously in regard to the existence of a Perfect Being, on the ground that although otherwise unanswerable it is in each case based upon an analytical proposition." Irish bulls are also regrettably scarce, though "Further the 'Ground' or higher synthesis is obtained by this process of negation, as by a spiral staircase towards the lofty regions of the Absolute" (p. 120) should rank pretty high among mixed metaphors.

Mr. Burke admires Leibnitz, Hegel, Plato, Berkeley, Russell, and Boole; he disapproves of Jevons, Spencer, and Kant (though he is fond of his jargon). His aim would seem to be to effect the higher synthesis of Hegelian Dialectic with symbolic logic, a fiendish combination, in which both teachers and learners of philosophy may pray he will not be thought to have succeeded. His own final claim, however, is quite modest. He professes only to have shown (p. 388-9) that the received molecular theory cannot explain the mechanism of the germ-plasm, that Leibnitzian monads, without any pre-established harmony, are preferable, and that "time change-waves" will account for the emergence of life and mind. There are some curious misprints in the names, like *Coutarat* (five times for *Couturat*) and Adams (for Adamson) and one would have thought that the Clarendon Press's proof-reader would have corrected the meaningless *ex definitio* on p. 135. F. C. S. S.

God—and the Devil

HAS SCIENCE DISCOVERED GOD? A Symposium of Modern Scientific Opinion, gathered and edited by Edward H. Cotton. Thomas Y. Crowell Company, New York. 1931. Pp. lviii, 308. $3.50.

THE CHRISTIAN SAGA, by Norman Towar Boggs. The Macmillan Company, New York. 1931. 2 Vols. Pp. xv, viii, 1082. $9.00.

THE STORY OF THE DEVIL, by ARTURO GRAFF. Translated from the Italian by EDWARD NOBLE STONE, with notes by the translator. The Macmillan Company, New York. 1931. Pp. xiv, 296. $3.00.

THE DEVIL IN LEGEND AND LITERATURE, by MAXIMILIAN RUDWIN. The Open Court Publishing Company, Chicago. 1931. Pp. xi, 354. $3.00.

THE TAPROOT OF RELIGION AND ITS FRUITAGE, by CHARLES F. SANDERS. The Macmillan Company, New York. 1931. Pp. viii, 266. $2.00.

THE REVELATION OF DEITY, by J. E. TURNER. The Macmillan Company, New York, 1931. Pp. 223. $2.75.

THE LUTHERAN HOUR, by WALTER A. MAIER. Concordia Publishing House, St. Louis. 1931. Pp. xii, 324. $1.50.

Everyone who is interested in the religio-scientific problem will read with avidity the symposium of modern scientific opinon, *Has Science Discovered God?* Edward H. Cotton is the editor and opens the volume with a chapter of introduction. On the whole, the book will be exceedingly heartening to those who believe firmly in the values of religion and in the capacity of religion to survive all criticism and to justify itself in the lives of individuals and in the progress of civilization. On the part of some of these writers there is a definite understanding of the change which has come over scientific procedure, and an appreciation of the fact that science, with its sole method of mathematical proofs, is incapable of dealing with certain aspects of reality. Thus Kirtley F. Mather, in his chapter, is led to say (p. 3): "The arrogance which characterized so many scientists of preceding generations has given place to a true humility, admirably displayed by most of the leaders in contemporary scientific progress;" and (p. 4) "we are beginning to suspect that the mind of man is incapable of grappling with ultimate reality in any truly scientific way." He further adds to his confession of belief an encouraging statement about the place of personality in cosmic reality (p. 9): "The emergence of personality in the evolutionary process is an event of transcendent importance, the full meaning of which is still unappreciated. It must have occurred, however, in response to personality-producing forces in the universe;" and quotes Professor Jennings for the fact that "thoughts, ideals, purposes, are among the determining factors for the happenings in nature. Aspirations do influence the course of events."

This understanding, which is new in modern science, may be found in many of the men who have participated in the symposium, and it is all to the good. If we could manage some way to bring the Fundamentalist to a similar humility, all might be well for the future complete understanding of religion and science. The principal difficulty lies, however, in the incapacitiy of the average scientist to break away from the old dogmatic assurances of his mathematical method. Nowhere in the book is this incapacity so marked as in the Introduction. The editor does not even sense the problem which arises between religion as representing values and science as representing objectivity. This is obvious in his statement that religion and philosophy prove nothing in the sense in which men require proof today and in the sense in which he considers science presents these proofs. He blames both philosophy and religion for their failure to explain the enigma of creation, but does not dream of calling science to account for a similar failure. Likewise, attention is called to the failure of religion to demonstrate the existence of God and of immortality. He does not understand, apparently, that there is such a thing as personal demonstration, that is, the demonstration in personal experience which yields certainty to the individual which at the same time is not computable by scientific method. His only hope for the demonstration of personal survival lies in the means of psychic research, which means, of course, that personal survival is something material and something which can be measured in terms of extension, and measurable duration.

This is to overlook the real problem altogether. The only God to which he will consent is a God which science can find in the laboratory method. He assumes easily that God has never been found in traditional religion, and therefore must await the result of scientific research. It might be well to begin on something easier, as, for instance, the proof of man's own personality or of the existence of the will, or of human love, or of the beauty and truth of a picture, or any other value, none of which can be reduced to terms of scientific method or found by scientific research. It would be impossible for Mr. Cotton to prove the existence of himself or his associates in the symposium by the methods which he insists upon for the discovery of God. One who can utter the hope, as he does, that science may become a religion does not understand the meaning either of religion or of science. Consequently we must look past the Introduction for the real dealing with the problem.

Some of the writers take one side, and some another, but everyone of them writes interestingly, and some of the most noted scientists forsake their science altogether in the interests of religious mysticism. Notable among these are Robert Andrews Millikan and Edwin G. Conklin. Everywhere one realizes the lack of a synthesizing philosophy, wherein both science and religion can find rational place. This is the great need of scientific thinkers. It is a great roster of authorities that Mr. Cotton sets before us, including in addition to those already mentioned, Arthur S. Eddington, Heber D. Curtis, Albert Einstein, J. Arthur Thomson, Michael Pupin, John Langdon-Davies, Sir James Jeans, Sir Oliver Lodge, and others. It was an interesting experiment to bring together religious ideas of these men who lead in the scientific world, and we commend it both to our extreme Fundamentalist friends and to the extreme scientists. R. T. F.

In Boggs' *The Christian Saga* we have an attempt to tell the story of Christianity something after the manner of Wells' *Outline of History* or Thomson's *Outline of Science.* As would be expected, the work suffers the weakness and enjoys the strength of such efforts. Mr. Boggs has chosen a clever title for his work, which we believe is intriguing, and, for the most part, has written in a very interesting style. He has been strong in putting forward the human interests which give life to any rehearsal of historical fact. Covering so long a period, he has of necessity been kept from going very deeply into many of the phases of history, but judged from the philosophical standpoint he has in general hit upon the essential facts and the essential philosophy behind the facts, so that he has made not only a very interesting but a very valuable book, and one that can be commended to the non-technical reader. The book is attractively printed and should enjoy a wide favor. We wish, however, that somebody might have proof-read it, for it is filled with misspelled words, both in English and in many cases where other languages are quoted. In places where he has translated, the translations are frequently free and would be criticized as incorrect by any exact scholar. He has also been careless in the spelling of proper names where there are two spellings, following sometimes one spelling, sometimes another, indifferently. We could never get over the impulse to take an axe to the man who like the author speaks of the Book of Revelation as the Book of Revelations.

One instinctively feels that the first volume is very much superior to the second, and especially in the latter part of the second, where he trails off into inconsequential matters. His treatment of modern Christianity is, we feel, exceedingly superficial and limited. He seems quite unaware of anything that has taken place outside of the Roman Catholic and Church of England communions. He utterly omits the progress of Christianity in America, and, for that matter, around the world, and seems to know nothing about the great development in foreign missions, with its scores of colleges, hospitals, and ameliorative work, which is far more important to the saga of Christianity than the Oxford Movement under Cardinal Newman. This failure to realize the place and importance of modern Christianity is probably what leads him to conclude that the saga of Christianity is ended. It seems unaccountable that one could write so good a history of early Christianity and yet remain quite unaware of its living quality. It has been peculiar to Christianity that one could at any time in its history—as, say, the crucifixion, or the fall of Rome, or the Protestant Reformation, or almost any other period—have said that the Christian saga was ended and Christianity was about to pass away. Few historians take account, however, of its living quality, for Christianity has shown its power to outlive old forms and old intellectual ideas and to adapt itself to the changes of the modern world. It has always been true that the very moments when its light seemed about to be put out have been the beginnings of new and greater developments and victory. This is because Christianity is more real and more powerful than a theology or a hierarchy or a social custom.

R. T. F.

Arturo Graf, an Italian writer, in 1889 announced to moderns, somewhat prematurely, perhaps, that the devil is dead, and he wrote *Il Diavolo* to pronounce a popular eulogy to his alluring memory. Professor Edward Noble Stone, of the University of Washington, has rendered the work into English under the title, *The Story of the Devil,* and it is a very delightful story, considering the fearfulness of the subject. The delight of it is not simply the literary quality of the work, but the fact that the arch demon who inspired such terror in our medieval ancestry is for us mostly an object of wonder, sometimes even of respect. The evolution of the Satan idea is sketched from primitive times to the Nineteenth Century literature of diabolism, and it represents an excellent addition to the scholarly research on the problem available in the English language.

Albion R. King.

Maximilian Rudwin, taking his inspiration from the famous work of Paul Carus, *The History of the Devil,* gives us in his book a comprehensive survey of the developed concepts in the French, German, and English literatures. The person of the Devil is by no means a uniform picture, but taking his start from the medieval legend of Lucifer the writer traces the variations through the modern survivals of medieval belief. The variegated picture is accounted for by the fact that European diabolism in general is a survival of ancient pagan practices and beliefs of the northern peoples. The work shows how premature the announcement of Signor Graf was. He concludes, not by announcing the death of Satan, but by tracing the modern moments toward the Devil's salvation. Comprehensive bibliographical notes and index will make *The Devil in Legend and Literature* a work of especial value for reference use. A. R. K.

We have in Professor Sanders' *The Taproot of Religion and Its Fruitage* the remarkable combination of a philosophy of religion written in popular language which at the same time deals with the underlying problems of metaphysics and epistemology. Religion is seen as a fact of human experience, its central core being the aspirational character of human personality. The truths by which men live are the whole truths known in mystical apprehension, and contemplation is the method of research in the mystical field. Reason checks experience and organizes it. Metaphysics is necessary to religion as a coordinating and unifying agent. Science and religion are in harmony when each is seen in its true light. The central function of organized religion is the confessional function, the foe of which is professionalism. Faith is the master of civilization but is not to be taken as contrary to knowledge, but rather as supplementary. This little book deserves wide reading both by religious leaders and laymen. The author has expressed with clarity and force insights which are the fruits of many years of teaching and thought as well as of a profound religious attitude. His orthodoxy is not the orthodoxy of organized religion, neither is his heterodoxy that of the cynic, but both are the result of a scientific temper and an idealistic philosophy of life. H. L. S.

The Revelation of Deity, by J. E. Turner, deals with fresh aspects of the subject of two previous volumes. It is a closely reasoned logical argument leaning heavily upon analogy between human and divine attributes. Personality is the highest level attainable by evolutionary advance of Reality. The purpose of Deity is the bringing into existence "of reals capable of becoming more and more akin to Himself."

A very ingenious argument is used from analogy to show that since human personality expresses its will by seeking to dominate its environment by the production and control of automatic mechanisms, so the divine will expresses itself creatively in making the physical universe the perfect mechanism which modern science shows it to be. A distinction between the "universe" and the "Universe" leads to some confusion. He regards mechanism as characteristic of the "universe" which is the physical order known by science, but not of the "Universe" which refers to the whole of Being. The question logically arises as to the value of the prolific arguments from science which relate only to the mechanical sphere, since the category "mechanical" does not apply to the realm of Being. These arguments give the impression of an overweening regard for the pronouncements of science which are quoted occasionally to settle the argument. This defect may of course be laid to the door of the method of "analogy" which is always unsatisfactory, but, in dealing with questions of Deity, unavoidable. H. L. S.

Dr. Maier's addresses over the radio, now published under the title, *The Lutheran Hour,* are a discussion of living and believing in the light of the traditional Christian doctrine. They were aimed to strengthen faith, not to raise questions. Persons wishing affirmative statements based upon the scriptures will here find thirty-six short, clear sermons that may prove decidedly helpful. The price of the book is most reasonable. C. F.

Of Human Destiny

THUNDER AND DAWN: The Outlook for Western Civilization with Special Reference to the United States, by Glenn Frank. The Macmillan Company, New York. 1932. Pp. xiii, 404. $3.50.

PARADOXY: The Destiny of Modern Thought, by RICHARD ROTHSCHILD. Richard R. Smith, Inc., New York. 1930. Pp. xvii, 256. $3.00.

THE NEW TWILIGHT OF THE GODS, by W. R. INGE. Longmans, Green and Company, New York. 1932. Pp. 31. 1s.

THE ROAD AHEAD, A Primer of Capitalism and Socialism, by HARRY W. LAIDLER. Illustrated by MABEL PUGH. Thomas Y. Crowell Company, New York. 1932. Pp. x, 86. $1.00.

In his own inimitable way, Glenn Frank in this new volume, *Thunder and Dawn*, calls the world to a New Renaissance, a New Reformation, and a New Industrial Revolution.

The New Renaissance is needed, he declares, to rescue culture from the pedant and poseur, rid it of its drawing-room inanities, and make it a masterful force in the active world. He would have it proceed on the lines of Greek Classicism, "which was not a drab discipline of the class-room, but a guide to behavior in a novel world." He desires a movement that shall establish social control of the impact of modern knowledge on modern life.

The New Reformation is needed to put religious institutionalism on the bonfire and to supplement the skepticism of a scientific age with the spiritual courage of the ages of faith.

The New Industrial Revolution is demanded to emancipate man from drudgery, economic fear, and to bring beauty of fabric and form back from the exile to which the machine age has sent it.

Thus in his own way the author sets the challenge to modern life, and in his own way answers the challenge. There is in the book a most courageous facing of the present situation with the threatened and oft-prophesied debacle of western culture. He does not believe in refusing to face the most gruesome facts. The most hopeful thing about his analysis is the skillfulness with which he points out the sources of failure and the accuracy with which he indicates the sources of renewal. He is not misled into thinking that renaissance can come about by any process of reorganization or administration such as lures the common thought of the time. He has the penetration to see that any renewal must take place from within; it must be a spiritual renewal.

> The West must find and follow some leadership that is more courageous than the rationalist and more intelligent than the romanticist. And I think it is to the religious impulse, as I have here defined it, that we must look for this element of socially creative courage. . . . . the potential capacity of mankind to respond to the call of intelligence made intelligible, and the feasibility of building a socially secure world in terms of the intrinsic and inviolable right of all races and all classes to respect for their

> human dignity and reenforcement in their social development. The cold calculations of reason will not, in my judgment, generate in men the courage to act upon such assumptions. . . . It must . . . spring from the loins of some ultra-rational faith that dares to face the challenge of man and civilization with courageous hypotheses that may seem to fly in the face of the common sense and critical science of the time . . . by demanding the impossible will unhinge the reality.

To pause here can scarcely do justice to this mind-stirring volume with its chapters on Literature and the Leadership of Hope; Education for Social Mastery; Racialism and the Nazarene; The Church and War; The West goes American—to mention only a portion. The distinct hope of the present seems to us to lie with the clear thinking of the group of which Glenn Frank is one of the foremost.

R. T. F.

Not in recent years have we picked up a book with so much prejudice—prejudice gathered out of title, introduction, and advertising—and laid it down with so much admiration and enthusiasm as *Paradoxy*. It is signalized by clear and dignified thought and style, it is beautifully written and a much needed contribution to the thought of the day.

The author calls for a revaluation of science:

> What is needed is revaluation of science as a whole—a research, if you please, into the philosophical basis on which it rests. And this is needed, not alone from the standpoint of a merely curious and speculative interest, but also, and perhaps chiefly, in order that science itself may be released from certain obscurities which are at present vitiating many of its conclusions as workable formulae.

He goes on further to indicate our modern weakness of finding a name for things and thinking that thereby we have explained them. There are few periods, he declares, which have been so given to the worship of words, and so again and again "we dedicate ourselves to some new holy word or catch-phrase."

In the chapter on the basis of science he points out the weakness of the statistical method by which all statements are today baptized into science. For the statistics or their meaning is first laid down by the mind, and then events are formed to fit them, quite as arbitrarily as Buckle declared in his *History of Civilization*: "The fact is, that murder is committed with as much regularity, and bears as uniform a relation to known circumstances, as do the movements of the tides, and the rotations of the seasons."

To this the author adds: "Everything is fixed and set, even the apparently casual, when treated statistically," and the reason for this is that there is no alternative to a "locked universe" if we start from the presumption of externality. And "so the whole process of inference, far from being any dependable key to reality, becomes simply the process of developing, in a series of purely analytical judgments, what was merely implicit from the start in an ideal structure."

Since "to begin a philosophical inquiry with the objective world involves impossible assumptions" and we cannot eliminate ourselves, the author proposes to start with the self, in the true personalistic manner. He seems unaware of contemporary personalism, but bases his beginning on the personalistic interpretation of the Kantian "unity of the apperception in all judgment." On this he builds the epistemological basis of his personalism:

> The unity of apperception that gives my world objectivity thus becomes synonymous with unity of moral purpose. Only an act in accord with my whole implied meaning and purpose, my rational self, can create that sort of reality which alone can satisfy me, which alone can have the hardness and fastness my practical life demands.

Out of this moral nature of the self-hood we are led to seek a unity in things, and finally ultimate unity. This ultimate unity is, of course, the Infinite, and thus he arrives at the metaphysical basis of personalism, and morality and religion are seen as a part of the cosmic order. Science and faith are seen to be but portions of the same understanding:

> . . . truth represents at bottom simply what one believes, simply a unification of things, whether a partial or an ultimate unification, through a faith or belief in which one seeks one's own rational self. The very synthesizing process whereby we build up the world of science is in kind identical with that through which we arrive at our own faith.

Thus he finds place for religious mysticism, since the peace that passeth understanding reaches a need which cannot be met by peace *through* understanding:

> . . . All our modern attempts to supplant religious mystery with scientific knowledge are actually tending in the direction of a disintegration and unsettlement of life. For man cannot stand alone. He must hang on to the tail of some kite. And all history has illustrated, in a sense, his endeavor, paradoxically, to crystallize, in religious form, an absolute unknowable, for only in the unknowable, he has realized consciously or unconsciously, can he find his own soul.

And so a Personalist lays down the book with even a greater degree of satisfaction, because Mr. Rothschild, not knowing or calling himself a Personalist, has so clearly and so beautifully demonstrated its leading affirmations. R. T. F.

In *The New Twilight of the Gods* the "gloomy Dean" discloses the philosophical sources of his pessimism. He still stands by Plato and

Plotinus in irreversible fashion, and prefers the Absolute to any sort of God who can bow himself down to either the intelligence or the understanding of man. The difficulty with this sort of thing is that an Absolute who is "Beauty only, absolute, separate, simple, and everlasting, which without diminution and without increase is imparted to the ever-growing and ever-perishing beauties of all other things," seems to involve an impossible paradox quite equal to being able to eat one's cake and at the same time to keep it. Beauty which is forever separate and absolute and which can impart itself and become a portion of all other things is a contradiction in terms to everybody but the absolutist philosopher. That it is not such to him seems to lie entirely in his capacity for words without meaning. Of course, if one is afflicted with this type of thought, there is no such thing as progress or evolution—there is only the Absolute. But if there is only the Absolute, there is no use being worried about anything, anyway, and there is no need for a "*new* twilight of the Gods," since the Absolute never changes.

The lecture was given as an inaugural to the Session 1931-32 at the University College of Wales, Aberystwyth, last October, and will be widely desired because no one feels he can miss anything that is said or written by Dean Inge. R. T. F.

The Road Ahead, directly addressed to children, is a little book on socialism by the executive director of the League for Industrial Democracy. It is illustrated by thirty-three sketches, and forms an intelligent elementary introduction, from the socialist viewpoint, to capitalism, unemployment, and the host of problems that have sprung out of the industrial revolution. C. F.

The Literary Shelf

JOHN RUSKIN'S LETTERS TO FRANCESCA, AND MEMOIRS OF THE ALEXANDERS, by LUCIA GRAY SWEET, with an introduction by WILLIAM CLYDE DE VANE, JR. Lothrop, Lee, & Shepard Company, Boston. 1931. Pp. 432. $3.00.

THE THEORY OF DRAMA, by ALLARDYCE NICOLL. Thomas Y. Crowell Company, New York. 1931. Pp. 262. $2.50.

CHARCOAL AND CHALK, by VIRGINIA TAYLOR MCCORMICK. Charcoal drawings by May Baker. Atlantic Coast Printing Company, Norfolk. 1931. Pp. xiv, 98. $2.00.

RADIO TO DAEDALUS, by VIRGINIA TAYLOR MCCORMICK. Atlantic Coast Printing Company, Norfolk. 1931. Pp. 108. $2.00.

A WANDERING HARP: Selected Poems, by JAMES H. COUSINS. Roerich Museum Press, New York. 1932. Pp. xiv, 304. $3.00.

To all Ruskin lovers this volume by Lucia Gray Swett will come as true treasure trove. We are always getting the company manners and the company work of distinguished men, with very little opportunity to know the familiar side of them, which, after all, is the more interesting because the most human. Francesca Alexander was a great favorite of Ruskin, and there was great cameraderie between them, he advising her with her drawings and calling attention to them and selling them, she in undisguised admiration of his ability and manhood. It must have been for Ruskin, as he so frequently states in these letters, a refreshing diversion from care and physical burdens, and both Francesca and her parents were undoubtedly able to be of real service to him before the closing clouds of physical weakness quite shut him from the world.

One has in these letters the charming frankness of the great man in playful mood, and it is matched by the equal charm of a sensitive and appreciative spirit in Francesca herself. And the story told in them takes on an interest quite apart from the personalities of the principals.

For Ruskin one turns at once to the "Works" edited by Cook and Wedderburn in thirty-nine volumes. There, in volume thirty-three, one finds Francesca's literary output in *The Story of Ida, Roadside Songs of Tuscany,* and Christ's *Folk in the Apennines,* as well as excerpts from her letters here and there, mostly in volumes thirty-one and thirty-two; but in Mrs. Swett's work we have more of them and greater fulness and the personal touch which does not appear in the definitive edition. This volume thus makes a real addition to Ruskin lore. Moreover, if it serves, as it should, to recall attention to these forgotten volumes of Ruskin in which the Francesca stories lie buried, the work has been fully justified, for Francesca, her art, her stories, and her love for the Italian peasant are too valuable to the world to be forgotten. R. T. F.

Any discussion of drama from the pen of such an authority as Professor Nicoll will receive thoughtful consideration, even though, as in *The Theory of Drama,* it does not represent an entirely new contribution. As Professor Nicoll himself states, this work "is in some respects a revised edition of *An Introduction to Dramatic Theory,* published in 1923." But the new book is abundantly justified by two chief additions to the content of the former one: a section on the theory of drama in general and a section on tragi-comedy.

This work well fulfills its purpose of presenting a general guide or introduction to the study of drama as an artistic form. It consists of four main sections, treating respectively The Theory of Drama, Tragedy, Comedy, and Tragi-Comedy. The need for a sound and somewhat detailed treatment of the theory of drama is thus phrased by the author:

> The art of dramatic criticism, in spite of these long centuries and in spite of the high attainments of the present age, might almost be counted in its infancy, for it has not yet quite reached an all-comprehensive view of the material on which it works.

> On the diverse manifestations of the theater, from high tragedy and fine comedy on the one hand to the most pitiful of melodrama and farce on the other, even on that distant cousin of Thalia and Melpomene, the marionette and the puppet show, have been written volumes innumerable; brilliant studies have been made of Aeschylus and Seneca, of Shakespeare and Moliere; but only too often the difficulties inherent in this subject have prevented a true analysis of the qualities shared alike by Shakespeare and Aeschylus, by Moliere and Aristophanes. It seems that herein lies the greatest opportunity for the critics of the future, although the difficulties inherent in the subject and the enormity of the task may make us wait long for the work which shall do for the world's drama what Aristotle did for the drama of Athens. It is in this direction, however, that we should look, and for anyone launching himself on a survey of this critical thought the comparative method seems indeed an absolute necessity.

Professor Nicoll has pointed the way, not only by precept but by example. Beginning with an historical outline, he continues his discussion of the theory of drama by examining successively the meaning of drama, the dramatic conventions, the judgment of drama, and the forms of drama. Typical of his breadth of view is his "rough definition" of drama, which may appeal to some as somewhat *too* rough:

> Drama is the art of expressing ideas about life in such a manner as to render that expression capable of interpretation by actors and likely to interest an audience assembled to hear the words and witness the actions.

Of especial illuminative value are the discussions of Tragedy and Comedy, with their emphasis upon "universality," the carefully documented distinctions between the two, and the abundance of examples cited to illustrate the various types of tragedy and comedy. The hybrid quality of tragi-comedy makes its interpretation a rather difficult business, and not all of Professor Nicoll's readers may follow him here with complete assent or understanding. But in this last chapter, as throughout the book, the author shows a careful deliberation of all views of the subject that is a welcome substitute for the dogmatism too often encountered in discussions of this richest of art forms.

LOUIS WANN.

Charcoal and Chalk is a book of stories and of verse about the negro of old plantation days. "I count it among my greatest privileges," says Mrs. McCormick in a foreword, "that I grew to womanhood on a small farm . . . and that my playmates were . . . often . . . the children from the quarters, where there still lingered in the eighties five of the old slaves who had belonged to my grandfather."

Mrs. McCormick knew and loved these colored folk and she has re-created them for us with a tenderness, an understanding and a humor that makes this volume delightful.

Aunt Lucindy was a gold mine to her master because she bore "'leven leedle nigger boys" and her husband, Jeemes, wasn't able to "put a streak o' yaller in nary one o' dem;" Lindy, mother of a large family, had never had "ma'iage lines" and was so "sot" for a wedding that her man, Thundah, had to agree to marry her. She was resplendent in a wedding veil made out of an "ole skeetah net," and their children were the bridesmaids and attendants. Melvina was doubtful about the value of a church ceremony. Jumping over a broomstick seemed good enough to her. Marriage tied things too tight.

George Washington Manigault Carter, proud of his name; Aunt Celey, who saved her master's life during the Civil war; Bill, the "scolliard" who was, he apologized to excuse his begging, *"non compossum be mentis;"* the Thousand Dollar Nigger, celebrated in rhyme—all are delightful—and tragically-humorously authentic.

MARY SINTON LEITCH.

Radio to Daedalus is the expression of a talent ripened and matured by much experience of life, experience gained not only in the world of everyday but in wide travel in foreign lands. The poems have appeared in many of the leading magazines in this country and abroad; G. K.'s Weekly, *The Century, The Forum, The Catholic World, The New Republic,* and the small but distinguished *Lyric* of Virginia, are some of these.

Mrs. McCormick has a wide range. She gives us her dreamy reaction to the flight of the wild goose, and a satire on the snobbish woman; Nausicaa's memories of Odysseus, and a picture of a homely farm at the fall of night. Travel in Scotland brings her the vision of the footprints of tall gods in the "rugged moors of purple heather," and on Judean winds she still hears the "songs that David sung." In Cornwall King Arthur's "winding horn" and the "laughter of gold Guinevere" still sound on her inner ear.

Perhaps her poems of Palestine have more freshness than any of the other poems in the book, yet the *Sonnets of an Old Farm,* bringing us back to Virginia soil, have a homeliness that warms the heart. They could have been written only by a poet who had deeply felt the rich meanings of the turned earth.

> For hungry cities clamoring to be fed,
> The grain and I grow into crusty bread.

What better expression could there be of the beauty of simple labor?

M. S. L.

There is much of music and even more of the spirit of poetry in James H. Cousins' *A Wandering Harp.* The combination of a leading Irish literary figure inspired with the ripe thought of India has produced in the volume an exceptional beauty of form and liveliness of imagination. The contents are varied, including earlier poems written in and of Ireland, as well as many that reflect the philosophy of the Orient, and some from the United States and the European continent. Persistently recurring are the author's love of the highest in nature and man, and his mature faith in the essential goodness of things. C. F.

Chinese Thought

SINISM: A Study of the Evolution of the Chinese World-View, by HERRLEE GLESSNER CREEL. The Open Court Publishing Company, Chicago. 1929. Pp. ix, 127. $2.00.

CREATIVE ENERGY: Being an Introduction to the Study of the Yi King, or Book of Changes, with translations from the original text, by I. MEARS *and* L. E. MEARS. E. P. Dutton and Company, Inc., New York. 1932. Pp. xxiii, 239. $2.00.

T'ANG LOVE STORIES, by S. Y. SHU. An address before the convocation of the North China Union Language School, February-March 1932. North China Union Language School cooperating with California College in China, Peiping. Pp. 22.

CHINESE PROVERBS: The Relationship of Friends as Brought Out by the Proverbs; Economics as Seen Through the Proverbs, by CLIFFORD H. PLOPPER. Addresses before the convocation of the North China Union Language School, February-March 1932. North China Union Language School cooperating with California College in China, Pieping. Pp. 47.

My first impressions of Dr. Creel's study in the evolution of the Chinese world-view were that the author, in challenging some of the positions taken by certain well-known sinologists, such as Legge, Wieger, and Wilhelm, had shown a self-confidence bordering on presumption, especially in view of the fact that he was himself dependent on translations for his knowledge of Chinese sources, and, in seeking to reduce Chinese thought to understandable terms for occidental readers, had been over-influenced by his familiarity with Western modes of philosophical expression, and had therefore, perhaps, over-simplified his summaries of Chinese thinking.

These adverse impressions of the book have, on a second and more careful reading, largely been supplanted by a strong feeling of admiration for what the author has accomplished. As I try to analyze this feeling, I am led to indicate a few of the grounds for my admiration.

I like the author's courage. He challenges current interpretations without regard to the fame of their advocates. He fearlessly sets forth his own interpretations and his reasons for them. While a little blunt at times in his attempts to explain why some sinologists—especially missionaries—have fallen into what he considers to be errors of interpretation, yet his courage, on the whole, is tempered with reason.

I also like the author's psychological approach, for it contributes not a little to a better understanding of the causes of divergence in philosophical thought in China, as well as in the interpretation, both in China and in the West, of the thinking of individual philosophers. The author shows, for example, why Lao Tse differed in his conclusions from Confucius, though his premises were much the same, and why to some people Confucius appears a cold, unsympathetic, austere formalist, while to others he is fully human, interested in the problems of daily life, seeking to promote the welfare of all people. It is the psychological approach which clarifies these situations.

The author's determination to dig out the philosophical foundations which underlie the tumbled ruins of the records which we possess of the thoughts of the ancients I also admire. Dr. Creel would, I am sure, be among the last to claim finality for his discoveries. It is not his conclusions, but his procedures that interest me most. Mo-Tse, for example, has been generally regarded by Chinese writers as a heretic, the founder of a distinct school of thought. Our author, however, produces logical evidence to show that he probably was, as he claimed to be, a true Confucianist, adding to this certain psychological data to indicate how Mo-Tse came to be misinterpreted. A similar procedure has resulted in our author taking sharp issue with certain writers, ancient and modern, who have held Hsün-Tse to be a true-blue Confucianist. It is all to the good that both the psychological and the logical tests have thus been applied.

More than all do I like the author's hypothesis that older than Buddhism, or any other influence from abroad, and older than Lao-Tse or Confucius, in fact as old as the oldest records of Chinese culture, there has existed a distinctively Chinese world-view, which has permeated all indigenous Chinese philosophy and greatly influenced all imported schools of thought. While this hypothesis should not be regarded as incontrovertibly proven, the evidence in its favor is certainly strong, and Dr. Creel has made for it a cogent case. He calls it "Sinism," feeling that "Confucianism" is a wholly inadequate term by which to name a system of thought long antedating the birth of Confucius. The main points in Sinism are set forth in the following sentences quoted from the book under review:

> The village . . . appears to be the archetype from which the entire Chinese conception of the world and even the cosmos grew (p. 10).
>
> The true Chinese cosmos is . . . anthropocentric, never theocentric. The corollary of this is that practical orientation of the Chinese mind which observers have so universally remarked (p. 20).
>
> The chief characteristics of . . . life were found to be regularity and order, both in social life and in the natural processes of agriculture and the weather. The hypothesis was further ventured that these two sorts of regularity were amalgamated into

> a cosmology in which the idea of harmony became the ideal. (p. 22).
>
> The character *tao,* standing alone, came to have a richness of connotation rivalled by few words in any language. It came to be, in itself, the very epitome, the heart, soul and symbol of Sinism (p. 44).

How far the author of *Sinism* has succeeded in defining the original, simon-pure world-view of the Chinese people remains to be revealed by further research. He has dealt mainly with Sinism as exhibited by the most highly educated class. The peek he gives his readers, in Chapter VII, into what the common people thought, even in the absence of archeological findings which the author bemoans, could be enlarged into a real picture by a study of the ancient poetry and folk-lore which has been preserved. Furthermore, as the author himself indicates, a study needs to be made of the farings, both philosophic and popular, of Sinism since the days of Wang Ch'ung, of the first century, A.D., with whose revealings the present story abruptly closes. Let us hope that Dr. Creel will find time to complete what he has well begun. D. Willard Lyon.

The *I Ching* is China's most ancient and enigmatic book. Confucius regretted that he did not have fifty years to devote to its study. The authors of *Creative Energy* believe the document to have esoteric significance and they have essayed to reveal to us just what profound teaching is contained in it.

> When interpreted as a sacred work, [they write] it is found to contain cosmic truths similar to the Bible. . . . It provides a reasonable explanation of the Divine Purpose in the creation and in the perfecting of the life of man upon earth. Therefore assuredly, in the fulness of time, it will take its rightful place as a World Scripture, a presentment of vital and undying truth.

It is not probable, however, that this interpretation will be widely accepted of this venerable and mysterious Shang writing used anciently in divination. Wilbur H. Long.

The North China Union Language School, cooperating with California College in China, at Peiping, the latter a degree-granting institution founded for the encouraging of the study of Sinology by foreigners, publishes yearly a series of booklets on various aspects of Chinese life and culture. Two of these at hand are *T'ang Love Stories,* by S. Y. Shu of Cheloo University, Tsinan, and *Chinese Proverbs,* by Dr. Clifford H. Plopper of the Nanking Theological Seminary. The former deals with narrative material of the "romantic dynasty of China," whose themes were used by later schools of fiction. The latter consists of two lectures on the relationship of friends and on economic life, as revealed in native proverbs. These and similar studies published by these institutions, comprising convocation lectures delivered on their campus, are of interest because they represent research by authorities, and treat of material not otherwise available. To the reading public they are welcome as providing intimate knowledge of things Chinese. W. H. L.

Studies in the History of Philosophy

RESEARCHES IN MANICHAEISM: With Special Reference to The Turfan Fragments, by A. V. Williams Jackson. Columbia University Press, New York. 1932. Pp. xxxviii, 393. $5.00.

BERKELEY'S AMERICAN SOJOURN, by Benjamin Rand. Harvard University Press, Cambridge. 1932. Pp. xi, 79. $2.00.

THE EDUCATION OF JEREMY BENTHAM, by Charles Warren Everett. Columbia University Press, New York. 1931. Pp. xxii, 216. $2.50.

A STUDENT'S HISTORY OF PHILOSOPHY, by Arthur Kenyon Rogers. Third Edition. The Macmillan Company, New York. 1932. Pp. xiv, 487. $2.50.

The scholarly world has been long conscious of the very great influence exercised by Manichaeism on Christianity, for to the Fathers of the Church it at one time presented a bitter struggle. But the literature upon Manichaeism has been very sparse outside of the works of the Fathers themselves, and they wrote from the standpoint of opposition. These facts make very important this latest work of Professor Jackson, who now presents to us English translations of the only direct Manichaean literature known, and which has but recently been turned up by the archaeologist's spade. Not only does the author present us with a smooth English rendering but with the literal translation as well, making it possible for the scholar to examine his translation. The work represents a prodigious amount of labor, and Professor Jackson's work is the most important in the field.

The work takes on a heightened interest as we endeavor to trace the origins and early influences that determined the direction of Christian theology. Frequently it was determined by the opposition raised quite as much as by its inherent positions. If one is to understand the eschatology of either Old or New Testaments and the eschatological teachings of the church, it must be more or less upon the frame of Zoroastrianism, Mazdaism, Manichaeism, and, in the medieval period, of Mohammedanism, since the eschatology of all traces back to common sources.

Dr. Jackson has laid scholarship under a heavy debt, and the Columbia University Press deserves great credit for this contribution to learning. R. T. F.

A most delightful little monograph is Benjamin Rand's *Berkeley's American Sojourn.* Dr. Rand tells us what everybody has known dimly, but more or less as a myth or legend. Here we have the whole matter of Berkeley's presence in America definitely set before us and in a charming way. The point of particular interest is the author's discovery that the information usually alleged against the possibility of Swift's marriage to Stella is incorrect, and that Berkeley was in England and might have been present at their marriage. This, of course, does not prove that Swift married Stella, but it does entirely disprove the evidence which the biographers of Swift, Collins and Mason, urged against it.

Berkeley's relationships to Harvard and Yale are interestingly set forth, and some attention is given by Dr. Rand to his influence upon American philosophy. Among the idealists whom he mentions are W. T. Harris, Noah Porter, Francis Bowen, John Watson, George Trumball Ladd, Josiah Royce, George Holmes Howison—to say nothing of Jonathan Edwards, Samuel Hopkins, William Ellery Channing, and Rowland Z. Hazard. One wonders, in view of the very great influence of Borden Parker Bowne in American thought, at the strange short-sightedness which prevented Dr. Rand from seeing across the Charles and appreciating a man who was very much his contemporary. However, the book will be welcomed with pleasure as a contribution to the history of American Philosophy.

R. T. F.

In *The Education of Jeremy Bentham* Dr. Everett of the English department at Columbia University has made a special, and most successful, effort to set forth the human side of the English utilitarian. The struggles, ambitions, and achievements of Bentham are presented in such a way as to reveal the dutiful yet independent son, the young man strongly attached to science, especially in the field of legislation, and the writer who forever postponed publishing in order to attain greater completeness. Mill's dictum that Bentham "had neither internal experience nor external" is shown by the documentary evidence to be wholly erroneous.

The work is a sound and capable biography of one of England's most influential thinkers, the emphasis resting upon his intellectual growth. It is most readable, and if good biography may be assumed to arouse interest in a subject, the author's work cannot fail to turn additional attention toward the astute and original philosopher who died just a century ago.

C. F.

In his "Preface to the Third Edition," Professor Rogers tells us he had not looked into his *History* for many years when he was requested to revise it, and he disclaims originality. Nevertheless, the number of printings and editions indicates a steady popularity; and where there is so much smoke there must be a good deal of fire. In truth, *A Student's History of Philosophy* is a model of clarity and simplicity. This is partly because of the style, but there are other factors. For one, the author's aim is very evidently to help the reader understand. There is thus an absence of controversy and of personal opinion, and one has an objectivity which is at once sympathetic and unbiased. Professor Rogers has also succeeded, it seems, in the difficult task of including neither too much nor too little material on any one philosopher. He has a well-ordered plan, with few blind alleys. His discussion of recent tendencies is very concise, but this he feels desirable because of the limitations in a year's course in the history of philosophy.

The bibliographies are not particularly complete, and, what seems worse, omit initials of the authors. There is no mention of the Johnston and Struthers translation of Hegel's *Science of Logic*, which would seem to indicate a certain carelessness in bringing the book lists down to date. C. F.

Miscellaneous

THE USE OF THE SELF, Its Conscious Direction in Relation to Diagnosis, Functioning and the Control of Reaction, by F. MATTHIAS ALEXANDER. With an Introduction by JOHN DEWEY. E. P. Dutton and Co., New York, 1932. Pp. xx, 143. $2.00.

The Use of the Self, by F. Matthias Alexander, is an account of the development of the author's technique in helping people to overcome defects through better control of their physical mechanism. His work is a careful application of the common sense belief that mind and body must work together to secure correct actions, and that these, in turn, will minister to mental poise. The book is personalistic in emphasizing the importance of conscious control as being superior to the test of how an act feels. Philosophers will appreciate Mr. Alexander's emphasis on the unity of the psycho-physical organism, though it will hardly impress them as novel.

The author has also written on *Man's Supreme Inheritance* and on *Constructive Conscious Control of the Individual.* The two titles indicate somewhat the importance attached by Mr. Alexander to his work, as well as the means he would employ to secure it. Pervading the clearly told story of the apparently simple and logical (though not easy) steps which led him to master difficulties in himself and others is a sense of destiny and great human significance. This is shared by John Dewey, whose introduction speaks of Mr. Alexander's work as man's most important and scientific step to control himself as well as the world he lives in. *The Use of Self* hardly tells enough to establish the proof of this contention, though the other writings may do so. C. F.

PERSONALITY AND WILL, by FRANCIS AVELING. D. Appleton and Company, New York. 1932. Pp. x, 246. $2.00.

The new series of the "Contemporary Library of Psychology" proposes a most interesting list of titles on those aspects of dynamic psychology and the philosophy of personality concerning which the popular reader wishes more light. The editor of the series, Dr. Aveling of the University of London, is the author of *Personality and Will.* The writer combats the delusion of *Hypotheses non fingo* in psychology, insisting, rather, upon the inescapable metaphysical assumptions of this science. The essential fact of mental life, he believes, is the fact of personality, a self-active entity known directly in intuitive and conscious experience. He is equally clear that no understanding of the psychological man is possible without reference to the facts of intuition, moral values and ideal meanings. "Human conduct," he writes, "at least in part, is such that merely instinctive principles fail to explain it. We shall find its explanation only in the mental constitution of man and the spiritual environment in which he lives." Recent experimental evidence is indicated which makes clear what active men believe, that there is in man a will factor to be distinguished from instinct, habit, reflex process, strain and effort; and the remark of Lankes is quoted with approval: "Man can make something of himself, in spite of what nature and inheritance have endowed him with." This book is a valuable, readable and non-technical account of the fundamental problem of will from the standpoint of a strictly personalistic psychology. W. H. L.

BOOKS RECEIVED

COLLECTED PAPERS OF CHARLES SANDERS PEIRCE, edited by CHARLES HARTSHORNE and PAUL WEISS. Vol. II, *Elements of Logic*. Harvard University Press, Cambridge. 1932. Pp. xi, 535. $6.00.

PHILOSOPHICAL ASPECTS OF MODERN SCIENCE, by C. E. M. JOAD. The Macmillan Company, New York. 1932. Pp. 344. $3.75.

CAUSALITY: Lectures Delivered before the Philosophical Union, University of California, 1932. University of California Publications in Philosophy, Vol. 15. University of California Press, Berkeley. 1932. Pp. 231.

MEDIEVAL FAITH AND FABLE, by J. A. MACCULLOCH, with a foreword by SIR J. G. FRAZER. Marshall Jones Company, Boston. 1932. Pp. 345. 15s.

IMMANUEL KANT IN ENGLAND, 1793-1838, by RENE WELLEK. Princeton University Press, Princeton. 1931. Pp. vii, 317. $4.00.

PHILOSOPHY OF THE SCIENCES, or THE RELATIONS BETWEEN THE DEPARTMENTS OF KNOWLEDGE, by F. R. TENNANT. The Macmillan Company, New York. 1932. Pp. ix, 191. $1.50.

COLLEGE OF THE PACIFIC PUBLICATIONS IN PHILOSOPHY, Vol. I. Lectures delivered under the auspices of the Pacific Philosophy Club in Anderson Hall during 1931-32. Edited by PAUL ARTHUR SCHILPP. Stockton, 1932. Pp. 157.

THE PHILOSOPHY OF THE PRESENT, by George Herbert Mead. Edited by Arthur. E. Murphy, with prefatory remarks by John Dewey. Lectures upon the Paul Carus Foundation, Third Series. Open Court Publishing Company, Chicago. 1932. Pp. xl, 199. $3.00.

ISSUES OF IMMORTALITY: A Study in Implications, by Corliss Lamont. Henry Holt and Company, New York. Pp. x, 198. $1.50.

THE DRAMA OF LIFE AFTER DEATH: A Study of the Spiritualistic Religion, by George Lawton. Studies in Religion and Culture, American Religion Series VI. Henry Holt and Company, New York. Pp. xxvii, 668. $3.75.

RELIGION UND GEDANKE: OLAUS-PETRI-VORLESUNGEN, Gehalten an der Universität Uppsala, von Vitalis Norström. In Deutscher Ubersetzung mit Einführing Herausgegeben von Elof Akesson. Borelius, Lund. 1932. Pp. xl, 324.

SATYAKAMA, or "True Desires" (being Thoughts on the Meaning of Life), by S. E. Stokes. S. Ganesan, Triplicane, Madras. 1931. Pp. xii, 416.

THE PHILOSOPHY OF RELIGION: The Principles of Christianity and other Religions, by Edward E. Richardson. The Judson Press, Philadelphia. Pp. 148. $1.50.

LE PROBLÈME DE LA PRIÈRE: Principe d'une revision de la Méthode théologique, par Fernand Menegoz. Seconde Edition, revue et augmentée. Libraire Félix Alcan, Paris. Pp. 540. 60 fr.

SAINT AUGUSTINE: THE ODYSSEY OF HIS SOUL, by Karl Adam. Tr. by Dom Justin McCann. The Macmillan Company, New York. 1932. Pp. 65. $1.00.

THE KEYS OF POWER: A STUDY OF INDIAN RITUAL AND BELIEF, by J. Abbott. E. P. Dutton and Company, Inc., New York. Pp. xi, 650. $6.00.

THE APPROACH TO PHILOSOPHY, by J. F. Wolfenden. Edward Arnold and Company, London. 1932. Pp. 236. 7/6 net.

SCHOPENHAUER: His Life and Philosophy, by Helen Zimmern. Revised edition of 1876. Charles Scribner's Sons, New York. 1932. Pp. 191. $1.75.

THE NEW CHURCH IN THE NEW WORLD: A Study of Swedenborgianism in America, by Marguerite Beck Block. Studies in Religion and Culture, American Religion Series V. Henry Holt and Company, New York. 1932. Pp. xi, 464. $3.75.

BURNED BOOKS: Neglected Chapters in British History and Literature by Charles Ripley Gillett. Columbia University Press, New York. 1932. 2 Vol. Pp. ix, 723. $10.00.

UNIVERSITY OF SOUTHERN CALIFORNIA

School of Philosophy

PROGRAM OF THE THIRD PHILOSOPHY FORUM

First Semester, 1932-33

The Philosophy Forum is a free public lecture course offered by the School of Philosophy to stimulate interest in the general field of philosophy. It was first given during the academic year 1930-31.

The program for the First Semester follows:

THE MESSAGES OF MODERN PHILOSOPHY

Sept.	*20:*	**Philosophy in Contemporary Life**	**Ralph Tyler Flewelling**
		REALISM	
Sept.	*27:*	**The Development of American Realism**	**Wilbur Harry Long**
Oct.	*4:*	**British Neo Realism**	**Herbert L. Searles**
Oct.	*11:*	**Pragmatic Realism**	**Donald A. Piatt**
		NATURALISM	
Oct.	*18:*	**The Naturalistic Viewpoint**	**B. A. G. Fuller**
Oct.	*25:*	**New Developments in Naturalism**	**Donald Cary Williams**
Nov.	*1:*	**Naturalism in Literature**	**Garland Greever**
		IDEALISM	
Nov.	*8:*	**Cosmic Idealism**	**John Elof Boodin**
Nov.	*15:*	**Idealism in Practical Life**	**Hugh Miller**
		PERSONALISM	
Nov.	*22:*	**Types of Personalism**	**Carl Farman**
Nov.	*29:*	**Metaphysical Personalism**	**Wilbur Harry Long**
Dec.	*6:*	**The Present State of Pragmatism**	**H. Jeffery Smith**
		INTUITIONALISM	
Jan.	*3:*	**Intuition and Knowledge in Bergson**	**Ralph Tyler Flewelling**
Jan.	*10:*	**The Validity of Intuitive Certainties**	**Edwin Diller Starbuck**
Jan.	*17:*	**The Meaning and Essence of Mysticism**	**Hartley Burr Alexander**

The lectures are given Tuesdays at 4:30 in the Borden Parker Bowne Room of the Mudd Memorial Hall of Philosophy, at the corner of University Park and Exposition Boulevard.

Admission is free to students and public, *by ticket.* These may be secured without charge by calling at the Hall of Philosophy, or sending a stamped addressed envelope to

The Director, School of Philosophy,
University of Southern California,
University Park, Los Angeles.